CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
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Commission Action:	

STAFF REPORT: PERMIT AMENDMENT

APPLICATION NO.: 5-82-192-A2

APPLICANTS: A. Jerrold Perenchio

PROJECT LOCATION: 23554 Pacific Coast Highway, City of Malibu (Los Angeles County)

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: Construction of an approximately ten acre private park, eight foot high rock wall around ten acre parcel, landscaping including lawn, construction of three ponds, installation of jogging track, irrigation system, lighting system, dish radio receiver, and three gazebos and approximately 11,500 cu. yds. of grading.

DESCRIPTION OF AMENDMENT: Request for after-the-fact approval for construction of golf practice areas in an existing 10 acre private park, 985 sq. ft. storage building, driveway, and approximately 8,982 cu. yds. of additional grading for a total of 20,482 cu. yds. of grading on site. In addition, the project includes a new proposed 10-foot wide, approximately 620 foot long native vegetation buffer, recirculating drainage system, turf management plan, water quality monitoring plan, abandonment of existing unpermitted septic system, installation of new secondary treatment septic system, and offer to dedicate the site as a public park pursuant to a settlement agreement at 23554 Pacific Coast Highway in the City of Malibu, Los Angeles County.

LOCAL APPROVALS RECEIVED: City of Malibu Planning Department, Approval in Concept, February 18, 2003; City of Malibu Geology Review, Approval in Concept, January 14, 2003; City of Malibu Environmental Health, Septic Abandonment Permit No. 02-2065, December 23, 2002.

SUBSTANTIVE FILE DOCUMENTS: Certified Malibu Local Coastal Program; Coastal Development Permit No. 5-82-192; Certified copy of Reporter's Transcript of Proceedings, Coastal Commission, Application No. 5-82-192, Tuesday July 27, 1982; Limited Engineering Geologic and Soils Report, 23554 Pacific Coast Highway, Malibu, California," SubSurface Designs, Inc., December 26, 2002; "Supplemental Geologic Report, Section 111 Statement for Existing Shed, 23554 Pacific Coast Highway, Malibu, California," SubSurface Designs, Inc., June 18, 2003; "Comparison of Potential Biological Impacts on Malibu Lagoon Between 1982 Approved Plan for Perenchio Park and Current Park Configuration," Glenn Lukos Associates, December 19, 2002; "Re: Initial Preliminary Draft Water Quality Analysis, Perenchio Park,

Malibu, CA," GeoSyntec Consultants, December 19, 2002; "Perenchio Park Drainage System Improvements Preliminary Design Report," GeoSyntec Consultants, April 21, 2003; "Re: Chemical Usage Analysis, Perenchio Park, Malibu, CA," GeoSyntec Consultants, April 21, 2003; Correspondence from Bridget Fahey, U.S. Fish and Wildlife Service, re: Perenchio Park Vegetation Project, February 27, 2003; Correspondence from Scott P. Harris, California Department of Fish and Game, January 3, 2003; Correspondence from Suzanne Goode, California Department of Parks and Recreation, re: Perenchio Park, 23554 Pacific Coast Highway, Malibu, California, February 20, 2003; Correspondence from Suzanne Goode, California Department of Parks and Recreation, re: Perenchio Park, 23554 Pacific Coast Highway, Malibu, California, June 12, 2003; "Discussion of impacts to Malibu Lagoon State Park associated with the stone wall and adjacent vegetation surrounding the Perenchio Park property," Glenn Lukos Associates, November 25, 2003; "Field Study Report," by GeoSyntec Consultants, dated December 22, 2003; "Updated Perenchio Park Drainage System Improvements Preliminary Design Report," by GeoSyntec Consultants, dated December 22, 2003; Proposed septic system report by Ensitu Engineering, Inc., dated January 28, 2004; "Perenchio Park Runoff Frequency Estimates," by GeoSyntec Consultants, dated April 8, 2004; "Turf Management Plan," by David L. Wienecke, dated June 7, 2004; "Water Quality Monitoring Plan," by GeoSyntec Consultants, dated June 7, 2004; Settlement Agreement between A. Jerrold Perenchio, individually and as Trustee of that certain Jerry Perenchio Living Trust dated April 16, 1987, as amended, Margaret Rose Perenchio and the California Coastal Commission dated June 24, 2004.

PROCEDURAL NOTE: The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1) The Executive Director determines that the proposed amendment is a material change,

2) Objection is made to the Executive Director's determination of immateriality, or

3) The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material (14 Cal. Code of Regulations Section 13166). In this case, the Executive Director has determined that the proposed amendment is a material change to the project and has the potential to affect previously imposed special conditions required for the purpose of protecting coastal resources.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the applicants' proposal with **eleven (11) additional special conditions** regarding conformance with geologic recommendations, drainage system improvements plan, turf management plan, water quality monitoring plan, on-site wastewater treatment system, buffer landscaping plan, lighting restriction, future development restriction, offer to dedicate, deed restriction, and condition compliance.

I. STAFF RECOMMENDATION

MOTION: ***I move that the Commission approve Coastal Development Permit Amendment No. 5-82-192-A2 for the development proposed by the applicants.***

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE A PERMIT AMENDMENT:

The Commission hereby approves a coastal development permit amendment for the proposed development on the ground that the development as amended and subject to conditions will conform with the policies of the City of Malibu Local Coastal Program (LCP). Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment, or 2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. STANDARD AND SPECIAL CONDITIONS

Note: Unless specifically altered by the amendment, all standard and special conditions previously applied to Coastal Development Permit (CDP) 5-82-192 continue to apply. The approved coastal development permit includes two (2) special conditions. In addition, the following additional special conditions (numbered 3 through 13) are hereby imposed as a condition upon the proposed project as amended pursuant to CDP 5-82-192-A2.

SPECIAL CONDITIONS

3. Plans Conforming to Geologic Recommendations

All final plans must be reviewed and approved by the project's consulting geotechnical engineer. Prior to issuance of a coastal development permit amendment, the applicant shall submit, for review and approval by the Executive Director, evidence of the consultant's review and approval of all project plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to foundations, construction, grading, and drainage. Any substantial changes in the proposed development approved by the Commission that may be required by the consultant shall require an amendment to the permit or a new Coastal Development Permit.

4. Drainage System Improvements Plan

Within 180 days of issuance of this permit, or within such time as the Executive Director may grant for good cause, the applicant shall implement and complete the proposed drainage system improvements described in "Updated Perenchio Park Drainage System Improvements Preliminary Design Report," by GeoSyntec Consultants, dated December 22, 2003 **(Exhibit 13)**.

5. Turf Management Plan

Within 60 days of the issuance of this permit, or within such time as the Executive Director may grant for good cause, the applicant shall implement the proposed "Turf Management Plan," by David L. Wienecke, dated June 7, 2004 **(Exhibit 14)**, for the life of the development.

6. Water Quality Monitoring Plan

Within 60 days of the completion of the proposed drainage system improvements required in **Special Condition 4**, or within such time as the Executive Director may grant for good cause, the applicant shall implement the proposed "Water Quality Monitoring Plan," by GeoSyntec Consultants, dated June 7, 2004 **(Exhibit 15)**, for the life of the development.

7. On-Site Wastewater Treatment System

Prior to the Issuance of the coastal development permit amendment, the applicant shall submit for the review and approval of the Executive Director a report and plans verifying that the proposed on-site wastewater treatment system (OSTS) complies with the policies and provisions in the Malibu LCP pertaining to the siting, design, installation, operation and maintenance requirements for OSTSs. In addition, the report shall include plans and a description for the proposed abandonment of the existing unpermitted septic system. The report and plans shall be prepared by a qualified professional and approved by the City of Malibu's Environmental Health Department, and comply with sections 18.4, 18.7 and 18.9 of the Malibu Local Implementation Plan, adopted by the Coastal Commission on September 13, 2002. Any substantial changes to the septic system approved by the Commission which may be required by City of Malibu's Environmental Health Department shall require an amendment to the permit or a new coastal permit.

8. Buffer Landscaping Plan

Prior to issuance of a coastal development permit amendment, the applicants shall submit, for review and approval by the Executive Director, two sets of landscaping plans for the ten foot wide strip of land located east of the existing stone wall and adjacent to Malibu Lagoon State Park. The plan shall be prepared by a licensed landscape architect or a qualified resource specialist, and shall incorporate the following criteria:

a. Plantings shall be native, drought-tolerant plant species, and shall blend with the existing natural vegetation and natural habitats on the site. The native plant species shall be chosen from those listed by the California Native Plant Society, Santa Monica Mountains

Chapter, in their document entitled Recommended List of Plants for Landscaping in the Santa Monica Mountains, dated February 5, 1996.

b. Invasive plant species, as identified by the California Native Plant Society, Santa Monica Mountains Chapter, in their document entitled Recommended List of Plants for Landscaping in the Santa Monica Mountains, dated February 5, 1996 and identified in the City of Malibu's Invasive Exotic Plant Species of the Santa Monica Mountains, dated March 17, 1998, that tend to supplant native species and natural habitats shall be prohibited.

c. Landscaping shall provide 90 percent coverage within five years, or that percentage of ground cover demonstrated locally appropriate for a healthy stand of the particular native vegetation type chosen for restoration.

d. Landscaping shall be monitored for a period of at least five years following the completion of planting. Performance criteria shall be designed to measure the success of the plantings. Mid-course corrections shall be implemented if necessary. If performance standards are not met by the end of five years, the monitoring period shall be extended until the standards are met.

9. Lighting Restriction

A. The only outdoor night lighting allowed on the subject parcel other than temporary lighting in connection with short-term special occasions is limited to the following:

1. The minimum necessary to light the driveway, gates, and walkways used for entry and exit to the structure on the site. This lighting shall be limited to fixtures that do not exceed three feet in height above finished grade, are directed downward and generate the same or less lumens equivalent to those generated by a 60 watt incandescent bulb, unless a greater number of lumens is authorized by the Executive Director.

2. Security lighting attached to the maintenance building shall be shielded and directed downward; controlled by motion detectors; and is limited to same or less lumens equivalent to those generated by a 60 watt incandescent bulb.

3. No lighting around the perimeter of the property and no lighting for aesthetic purposes is allowed

B. Any temporary lighting shall be of low intensity and shielded and directed away from the adjacent Malibu Lagoon State Park and nearby residences. No temporary lighting shall be placed within one hundred feet of the eastern property line bordering the Malibu Lagoon State Park.

C. Events or occasions for which temporary lighting may be used shall not exceed three per year, and each event or occasion shall not exceed three successive days in duration.

10. Future Development Restriction

This permit is only for the development described in coastal development permit 5-82-192-A2. Pursuant to Title 14 California Code of Regulations section 13253(b)(6), the exemptions otherwise provided in Public Resources Code section 30610(b) shall not apply to the development governed by coastal development permit 5-82-192-A2. Accordingly, any future improvements to the development authorized by this permit shall require an amendment to Permit 5-82-192-A2 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.

11. Offer to Dedicate

Prior to issuance of the Coastal Development Permit Amendment 5-82-192-A2, the owner of the property at 23554 Pacific Coast Highway, Malibu shall execute and record an irrevocable offer to grant the property to the State of California in accordance with the terms and conditions of the Settlement Agreement between A. Jerrold Perenchio, individually and as Trustee of that certain Jerry Perenchio Living Trust dated April 16, 1987, as amended, Margaret Rose Perenchio and the California Coastal Commission dated June 24, 2004. The document shall include a legal description and graphic depiction of the property being offered and shall be recorded free of prior liens and encumbrances which the Executive Director determines may affect the interest being conveyed.

12. Deed Restriction

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property (hereinafter referred to as the "Special Conditions"); and (2) imposing Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the applicant's entire parcel or parcels. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

13. Condition Compliance

Within 180 days of Commission action on this coastal development permit amendment application, or within such time as the Executive Director may grant for good cause, the applicant shall satisfy all requirements specified in the conditions hereto that the applicant is required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

III. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. Project Description and Background

The applicants request after-the-fact approval for construction of golf practice areas in an existing 10 acre private park, 985 sq. ft. storage building, driveway, and approximately 8,982 cu. yds. of additional grading for a total of 20, 482 cu. yds. of grading on site. In addition, the project includes a new proposed 10-foot wide, approximately 620 foot long native vegetation buffer, recirculating drainage system, turf management plan, water quality monitoring plan, abandonment of existing unpermitted septic system, installation of new secondary treatment septic system, and offer to dedicate the site as a public park pursuant to a settlement agreement.

The project site is located south of Pacific Coast Highway in the Civic Center area of the City of Malibu **(Exhibit 1)**. The property consists of three approximately 3.3 acre lots that have been joined by lot tie. The property is designated Residential – Single Family Medium (4 du/ac) in the certified Malibu Local Coastal Program (LCP).

The site is located immediately west of Malibu Lagoon State Park, which is mapped as an environmentally sensitive habitat area (ESHA) in the Malibu LCP **(Exhibits 2** and **3)**. With the exception of several tree-tops, the site is not visible from Pacific Coast Highway or Malibu Lagoon State Park due to the presence of an eight foot high perimeter wall approved under the original permit [Coastal Development Permit (CDP) No. 5-82-192 (Perenchio)] **(Exhibits 10** and **11)**.

The original permit was issued in 1982 for construction of a 10-acre private recreational park on the site. The approved park included an eight foot high perimeter wall, manmade ponds, three gazebos, a jogging track, irrigation system, lighting system, TV? dish receiver, 11,500 cu. yds. of grading (3,000 cu. yds. cut, 8,500 cu. yds. fill), and landscaping. The approved landscaping plan featured primarily lawn, as well as planter areas containing ornamental species. The plan also included some California sycamores and several non-native trees, including the invasive Peruvian pepper (*Schinus molle*) and Eucalyptus (*Eucalyptus globulus*). In addition, Special Condition One (1) of the permit required the applicant to submit a specific landscaping plan, utilizing species consistent with those in Malibu Lagoon State Park, for a 10 foot wide setback adjacent to the park. The plans that Commission staff approved for CDP 5-82-192 included construction of an underground storm drain along the southern property boundary that outlets into Malibu Lagoon State Park.

Following issuance of the permit, and prior to construction, the applicant modified the design of the park. These modifications eliminated the jogging track, gazebos, and ponds, altered the grading, drainage, irrigation, and landscaping, and added golf practice areas consisting of a putting green and sand traps and a 985 sq. ft. storage building with a secondary treatment septic system. The landscaping plan for the 10-foot wide strip of land adjacent to Malibu Lagoon State Park was not implemented.

In early 2002, Commission Enforcement staff was informed that unpermitted development had occurred on the property. At the direction of Enforcement staff, the applicant submitted Coastal

Development Permit (CDP) Application No. 5-82-192-A1 to address the unpermitted development. The application was heard and continued at the July 2003 Commission hearing. The applicants withdrew CDP Application No. 5-82-192-A1 and simultaneously submitted the current application on December 24, 2003. The current application incorporates the development proposed under CDP Application No. 5-82-192-A1 along with additional proposals for a new septic system, updated turf management, drainage system, and water quality monitoring plans, and an offer to dedicate the property to the State pursuant to a settlement agreement dated June 24, 2004 **(Exhibit 12)**.

Under the Settlement Agreement, when the property is transferred to the State, the State will be permitted to remove the stone wall along the north and eastern borders of the property (adjacent to PCH and Malibu Lagoon State Park) and to convert up to 2 acres of the property adjacent to Malibu Lagoon State Park to wetlands.

As noted above, the 10-acre subject property is located in a single family residential zoning district that allows construction of 4 dwelling units per acre. However, Policy 2.7 of the Malibu LUP states that public parklands shall be a permitted use in all land use and zoning designations. In addition, in the land use designations described in Chapter 5 of the Malibu LUP, the "Single-Family Residential (SF)" land use designation provides: "Public open space and recreation may be permitted." Therefore, the proposed amendment would allow continued use of the property as a private park, as permitted under CDP 5-82-192, and long-term use of the property as public parkland and open space, as permitted by Policy 2.7 and Chapter 5 of the Malibu LUP.

B. Land Use

The Malibu Local Coastal Program designates the subject site as Single Family Residential Medium which allows for a maximum density of 4 dwelling units per acre, with a minimum lot size of 0.25 acre. Public open space and recreation are permitted uses within the Single Family Residential designation.

The following LUP policies are applicable in this case:

2.7 Public accessways and trails to the shoreline and public parklands shall be a permitted use in all land use and zoning designations. Where there is an existing, but unaccepted and/or unopened public access Offer-to-Dedicate (OTD), easement, or deed restriction for lateral, vertical or trail access or related support facilities e.g. parking, construction of necessary access improvements shall be permitted to be constructed, opened and operated for its intended public use.

Land Use Designations

SINGLE-FAMILY RESIDENTIAL (SF): This land use designation allows single family residential development at higher density than the rural residential category. It is intended to enhance the rural characteristics of the community by maintaining low-density single-family residential development on lots ranging from 1/4 to 1 acre in size. Single-Family Low (SFL) allows a maximum density of 2 dwelling units per acre, with a minimum lot size of 0.5 acre. Single-Family Medium (SFM) allows a maximum density of 4 dwelling units per acre, with a minimum lot size of 0.25 acre. Public open space and recreation may be permitted.

The Commission originally permitted the private park as an interim use until the Commission certified a Local Coastal Program for Malibu. Special Condition 2 of the permit stated:

> 2. **Interim Use**. By accepting this permit, the applicant acknowledges that the proposed improvements (perimeter wall and landscaping) constitute a temporary and interim use of the parcel and that the eventual appropriate use will be designated in the Commission certified Malibu Coastal Program. The applicant further acknowledges that this approval in no way constitutes a commitment to private intensification of residential use of the applicant's ownership.

In the findings for CDP 5-82-192, the Commission found that the subject parcel could be a potential visitor serving use provided sewage disposal concerns could be addressed through a regional or local sewer system. The Commission acknowledged that the land use issue should be addressed in a future Local Coastal Program for Malibu. The Commission also found that the proposed private park as an interim land use was appropriate in this case and consistent with the chapter three policies of the Coastal Act.

On September 13, 2002 the Commission adopted the Malibu LCP. The subject site was designated as medium density (1- 4 units) single family residential in the Malibu LCP. The applicant is not proposing any residential use on the site and proposes to continue to use the property as a private park on an interim basis. Under the terms of the settlement agreement between the applicant and the Coastal Commission the property will become a public park after the death of Jerrold Perenchio and his wife, Margaret Rose Perenchio.. The future use of the site as public open space is a permitted use under the residential designation in the Malibu LCP. As discussed below, the proposed improvements to the private park do not increase the footprint of the private park and include drainage improvements and treatment of surface water runoff before it reaches Malibu Lagoon State Park. Accordingly, the modifications as conditioned are consistent with the development polices of the Malibu LCP. Therefore, the Commission finds that the modifications to the private park and the long term use of the subject property as public open space is consistent with the Malibu LCP.

C. Hazards, Geologic Stability, and Landform Alteration

The proposed development is located in Malibu, an area generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to Malibu include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

In addition, Malibu contains many highly scenic areas offering mountain, canyon, and ocean views. Substantial landform alteration can degrade scenic and visual resources.

The Malibu Local Coastal Program (LCP) contains the following development policies related to hazards and landform alteration that are applicable to the proposed development:

Section 30253 of the Coastal Act, which also is incorporated as part of the Malibu LCP, states in pertinent part that new development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

In addition, the following LUP policies are applicable in this case:

4.2. All new development shall be sized, designed and sited to minimize risks to life and property from geologic, flood, and fire hazard.

4.5. Applications for new development, where applicable, shall include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard. Such reports shall be signed by a licensed Certified Engineering Geologist (CEG) or Geotechnical Engineer (GE) and subject to review and approval by the City Geologist.

4.10. New development shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion and other hydrologic impacts to streams.

4.45 New development shall minimize risks to life and property from fire hazard through:

- ***Assessing site-specific characteristics such as topography, slope, vegetation type, wind patterns etc.;***
- ***Siting and designing development to avoid hazardous locations;***
- ***Incorporation of fuel modification and brush clearance techniques in accordance with applicable fire safety requirements and carried out in a manner which reduces impacts to environmentally sensitive habitat to the maximum feasible extent;***
- ***Use of appropriate building materials and design features to insure the minimum amount of required fuel modification;***
- ***Use of fire-retardant, native plant species in landscaping.***

6.2 Places on and along public roads, trails, parklands, and beaches that offer scenic vistas are considered public viewing areas. Existing public roads where there are views of the ocean and other scenic areas are considered Scenic Roads. Public parklands and riding and hiking trails which contain public viewing areas are shown on the LUP Park Map. The LUP Public Access Map shows public beach parks and other beach areas accessible to the public that serve as public viewing areas.

6.9 All new development shall be sited and designed to minimize alteration of natural landforms by:

- ***Conforming to the natural topography.***
- ***Preventing substantial grading or reconfiguration of the project site.***
- ***Eliminating flat building pads on slopes. Building pads on sloping sites shall utilize split level or stepped-pad designs.***
- ***Requiring that man-made contours mimic the natural contours.***
- ***Ensuring that graded slopes blend with the existing terrain of the site and surrounding area.***
- ***Minimizing grading permitted outside of the building footprint.***

- ***Clustering structures to minimize site disturbance and to minimize development area.***
- ***Minimizing height and length of cut and fill slopes.***
- ***Minimizing the height and length of retaining walls.***
- ***Cut and fill operations may be balanced on-site, where the grading does not substantially alter the existing topography and blends with the surrounding area. Export of cut material may be required to preserve the natural topography.***

The Malibu LCP requires that new development be sited and designed to minimize risks to life and property from geologic, flood, and fire hazard. In addition, the LCP requires a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard. The LCP also requires that landform alteration be minimized in order to protect scenic views.

The applicant has submitted two geologic reports that discuss geologic hazards and site stability ("Limited Engineering Geologic and Soils Report, 23554 Pacific Coast Highway, Malibu, California," SubSurface Designs, Inc., December 26, 2002; "Supplemental Geologic Report, Section 111 Statement for Existing Shed, 23554 Pacific Coast Highway, Malibu, California," SubSurface Designs, Inc., June 18, 2003).

The SubSurface Designs, Inc., report dated June 18, 2003 concludes:

It is the finding of this firm that the existing shed will not be affected by settlement, landsliding, or slippage. Further, the presence of the shed will not have an adverse effect on off site property.

As such, the proposed project will serve to ensure general geologic and structural integrity on site at the present time. However, to ensure that final plans are reviewed and approved by the geologic consultants, **Special Condition One (1)** requires the applicant to submit project plans certified by the consulting geologist and geotechnical engineer as conforming to all geologic and geotechnical recommendations, as well as any new or additional recommendations by the geologic consultants to ensure structural and site stability. The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission relative to construction, foundations, grading, sewage disposal and drainage. Any substantial changes to the proposed development approved by the Commission that may be recommended by the consultants shall require an amendment to the permit or a new coastal development permit.

Modification of the previously approved private park to create the as-built golf course involved approximately 9,000 cu. yds. of additional grading for a total of 20,482 cu. yds. of grading on site (2,092 cu. yds. cut, 18,390 cu. yds. fill). Although the amount of additional grading is substantial, it occurred over the entire 10 acre site and therefore did not result in substantial landform alteration. As shown in **Exhibit 8**, the cut reduced the ground level less than one foot, and the fill raised the ground level an average of approximately two feet, with additional fill placed to create up to two foot high berms. The additional grading consists mainly of additional fill, which was placed within the same footprint as the previously approved 11,500 cu. yds. of grading. The additional fill resulted in a slightly more undulating landscape but did not result in a substantial alteration of the previously approved topography. Furthermore, due to the location of the existing previously approved eight foot high wall along the site's perimeter, the site is not visible from Pacific Coast Highway, a designated Scenic Road, or from any public viewpoints.

Therefore, for the reasons discussed above, the Commission finds that the project, as conditioned, is consistent with the applicable hazard, geologic and landform alteration policies and standards of the Malibu LCP.

D. Environmentally Sensitive Habitat Areas (ESHA) / Water Quality

The Malibu LCP provides for the protection of environmentally sensitive habitat areas (ESHA). ESHA within the City includes those areas designated on ESHA maps included in the LCP, as well as any area that meets the definition of ESHA provided in Policy 3.1. The Malibu LCP allows only uses dependent on ESHA (such as nature trails) to be located within ESHA. It also requires new development in and adjacent to ESHA to be sited and designed to minimize impacts to ESHA. Where this is not possible, the LCP requires mitigation for impacts to ESHA.

The Malibu LCP also provides for the protection of water quality. The policies require new development to protect, and where feasible, enhance and restore wetlands, streams, and groundwater recharge areas. The policies promote the elimination of pollutant discharge, including nonpoint source pollution, into the City's waters through new construction and development regulation, including site planning, environmental review and mitigation, and project and permit conditions of approval.

Section 30231 of the Coastal Act, which is incorporated as a policy of the Malibu LCP, states that:

> ***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.***

Section 30240 of the Coastal Act, which is also incorporated as a policy of the Malibu LCP, states:

> ***(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.***
>
> ***(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.***

In addition, the following LCP policies for the protection of ESHA and water quality are applicable in this case:

> ***3.1 Areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments are***

Environmentally Sensitive Habitat Areas (ESHAs) and are generally shown on the LUP ESHA Map. The ESHAs in the City of Malibu are riparian areas, streams, native woodlands, native grasslands/savannas, chaparral, coastal sage scrub, dunes, bluffs, and wetlands, unless there is site-specific evidence that establishes that a habitat area is not especially valuable because of its special nature or role in the ecosystem. Regardless of whether streams and wetlands are designated as ESHA, the policies and standards in the LCP applicable to streams and wetlands shall apply. Existing, legally established agricultural uses, confined animal facilities, and fuel modification areas required by the Los Angeles County Fire Department for existing, legal structures do not meet the definition of ESHA.

3.6 ***Any area mapped as ESHA shall not be deprived of protection as ESHA, as required by the policies and provisions of the LCP, on the basis that habitat has been illegally removed, degraded, or species that are rare or especially valuable because of their nature or role in an ecosystem have been eliminated.***

3.8 ***Environmentally Sensitive Habitat Areas (ESHAs) shall be protected against significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.***

3.14 ***New development shall be sited and designed to avoid impacts to ESHA. If there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Impacts to ESHA that cannot be avoided through the implementation of siting and design alternatives shall be fully mitigated, with priority given to on-site mitigation. Off-site mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on-site or where off-site mitigation is more protective in the context of a Natural Community Conservation Plan that is certified by the Commission as an amendment to the LCP. Mitigation shall not substitute for implementation of the project alternative that would avoid impacts to ESHA.***

3.18 ***The use of insecticides, herbicides, or any toxic chemical substance which has the potential to significantly degrade Environmentally Sensitive Habitat Areas, shall be prohibited within and adjacent to ESHAs, where application of such substances would impact the ESHA, except where necessary to protect or enhance the habitat itself, such as eradication of invasive plant species, or habitat restoration. Application of such chemical substances shall not take place during the winter season or when rain is predicted within a week of application.***

3.23 ***Development adjacent to ESHAs shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation buffer areas shall be provided around ESHAs to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect. All buffers shall be a minimum of 100 feet in width, except for the case addressed in Policy 3.27.***

3.24 ***New development adjacent to parklands, where the purpose of the park is to protect the natural environment and ESHA, shall be sited and designed to minimize impacts to habitat and recreational opportunities, to the maximum extent feasible. Natural vegetation buffer areas shall be provided around parklands. Buffers shall be of a sufficient size to prevent impacts to parkland resources, but in no case shall they be less than 100 feet in width.***

3.42 ***New development shall be sited and designed to minimize impacts to ESHA by:***

- *Minimizing grading and landform alteration, consistent with Policy 6.8*
- *Minimizing the removal of natural vegetation, both that required for the building pad and road, as well as the required fuel modification around structures.*
- *Limiting the maximum number of structures to one main residence, one second residential structure, and accessory structures such as, stable, corral, pasture, workshop, gym, studio, pool cabana, office, or tennis court, provided that such accessory structures are located within the approved development area and structures are clustered to minimize required fuel modification.*
- *Minimizing the length of the access road or driveway, except where a longer roadway can be demonstrated to avoid or be more protective of resources.*
- *Grading for access roads and driveways should be minimized; the standard for new on-site access roads shall be a maximum of 300 feet or one-third the parcel depth, whichever is less. Longer roads may be allowed on approval of the City Planning Commission, upon recommendation of the Environmental Review Board and the determination that adverse environmental impacts will not be incurred. Such approval shall constitute a conditional use to be processed consistent with the LIP provisions.*
- *Prohibiting earthmoving operations during the rainy season, consistent with Policy 3.47.*
- *Minimizing impacts to water quality, consistent with Policies 3.94-3.155*

3.45 All new development shall be sited and designed so as to minimize grading, alteration of physical features, and vegetation clearance in order to prevent soil erosion, stream siltation, reduced water percolation, increased runoff, and adverse impacts on plant and animal life and prevent net increases in baseline flows for any receiving waterbody.

3.56 Exterior night lighting shall be minimized, restricted to low intensity fixtures, shielded, and directed away from ESHA in order to minimize impacts on wildlife. High intensity perimeter lighting and lighting for sports courts or other private recreational facilities in ESHA, ESHA buffer, or where night lighting would increase illumination in ESHA is prohibited.

3.83 Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens shall be designated as wetland. Identified wetlands include Malibu and Zuma Lagoons. Any unmapped areas that meet these criteria are wetlands and shall be accorded all of the protections provided for wetlands in the LCP.

3.84 Any wetland area mapped as ESHA or otherwise determined to have previously been wetlands shall not be deprived of protection, as required by the policies and provisions of the LCP, on the basis that habitat has been illegally removed, filled, degraded, or that species of concern have been illegally eliminated.

3.87 The biological productivity and the quality of wetlands shall be protected and, where feasible, restored.

3.88 Buffer areas shall be provided around wetlands to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the wetland they are designed to protect, but in no case shall they be less than 100 feet in width.

3.95 New development shall be sited and designed to protect water quality and minimize impacts to coastal waters by incorporating measures designed to ensure the following:

- ***Protecting areas that provide important water quality benefits, areas necessary to maintain riparian and aquatic biota and/or that are susceptible to erosion and sediment loss.***
- ***Limiting increases of impervious surfaces.***
- ***Limiting land disturbance activities such as clearing and grading, and cut-and-fill to reduce erosion and sediment loss.***
- ***Limiting disturbance of natural drainage features and vegetation.***

3.96 New development shall not result in the degradation of the water quality of groundwater basins or coastal surface waters including the ocean, coastal streams, or wetlands. Urban runoff pollutants shall not be discharged or deposited such that they adversely impact groundwater, the ocean, coastal streams, or wetlands, consistent with the requirements of the Los Angeles Regional Quality Control Board's municipal stormwater permit and the California Ocean Plan.

3.98 Development must be designed to minimize, to the maximum extent feasible, the introduction of pollutants of concern[1] that may result in significant impacts from site runoff from impervious areas. To meet the requirement to minimize "pollutants of concern," new development shall incorporate a Best Management Practice (BMP) or a combination of BMPs best suited to reduce pollutant loading to the maximum extent feasible.

3.99 Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate. Dry weather runoff from new development must not exceed the pre-development baseline flow rate to receiving waterbodies.

3.100 New development shall be sited and designed to minimize impacts to water quality from increased runoff volumes and nonpoint source pollution. All new development shall meet the requirements of the Los Angeles Regional Water Quality Control Board (RWQCB) in its the Standard Urban Storm Water Mitigation Plan For Los Angeles County And Cities In Los Angeles County (March 2000) (LA SUSMP) or subsequent versions of this plan.

3.102 Post-construction structural BMPs (or suites of BMPs) should be designed to treat, infiltrate, or filter the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs and/or the 85th percentile, 1-hour storm event (with an appropriate safety factor, i.e. 2 or greater) for flow-based BMPs. This standard shall be consistent with the most recent Los Angeles Regional Water Quality Control Board municipal stormwater permit for the Malibu region or the most recent California Coastal Commission Plan for Controlling Polluted Runoff, whichever is more stringent.

3.110 New development shall include construction phase erosion control and polluted runoff control plans. These plans shall specify BMPs that will be implemented to minimize erosion and sedimentation, provide adequate sanitary and waste disposal

[1] Pollutants of concern are defined in the Standard Urban Storm Water Mitigation Plan For Los Angeles County And Cities In Los Angeles County as consisting " of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water , elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora or fauna".

facilities and prevent contamination of runoff by construction chemicals and materials.

3.111 New development shall include post-development phase drainage and polluted runoff control plans. These plans shall specify site design, source control and treatment control BMPs that will be implemented to minimize post-construction polluted runoff, and shall include the monitoring and maintenance plans for these BMPs.

3.113 Outdoor material storage areas shall be designed using BMPs to prevent stormwater contamination from stored materials.

3.115 Permits for new development shall be conditioned to require ongoing maintenance where maintenance is necessary for effective operation of required BMPS. Verification of maintenance shall include the permittee's signed statement accepting responsibility for all structural and treatment control BMP maintenance until such time as the property is transferred and another party takes responsibility.

3.116 The City, property owners, or homeowners associations, as applicable, shall be required to maintain any drainage device to insure it functions as designed and intended. All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy season. Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.

3.120 New development shall protect the absorption, purifying, and retentive functions of natural systems that exist on the site. Where feasible, drainage plans shall be designed to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems shall be restored, where feasible, except where there are geologic or public safety concerns.

The project site is located immediately west of Malibu Lagoon State Park, in the Civic Center area of the City of Malibu. Malibu Lagoon State Park is mapped as an environmentally sensitive habitat area (ESHA) in the Malibu LCP. The Malibu Lagoon has been determined to be ESHA due to its unique nature, its extreme vulnerability to development, and its important role in providing habitat for endangered species. Malibu Lagoon is one of the last large wetlands in Los Angeles County. Federally endangered tidewater gobies (*Eucyclogobius newberyyi*) and southern steelhead trout (*Oncorhynchus mykiss irideus*) use the lagoon and federally endangered brown pelicans (*Pelecanus occidentalis californicus*) can be seen in and around the lagoon. Malibu Lagoon and Malibu Creek support one of the few remaining steelhead trout runs in Southern California.

Currently, surface runoff flows into two large inlets along the southern edge of the property. These inlets tie directly into a large storm drain, which outlets to Malibu Lagoon. Subsurface drainage is collected in an underdrain system located beneath the putting area, which is also tied into the large storm drain. Under current conditions, there is no treatment or filtration (except for natural infiltration) of any runoff from the property. The transport of drainage into Malibu Lagoon was permitted under CDP 5-82-192.

Because the as-built development drains directly into the lagoon, water quality impacts in this case are synonymous with impacts to ESHA. Therefore, consistency of the proposed project with the water quality and ESHA policies of the Malibu LUP is addressed jointly in this section.

The proposed project includes the request for after-the-fact approval for construction of golf practice areas in an existing 10 acre private park, a 985 sq. ft. storage building, a driveway, and approximately 8,982 cu. yds. of additional grading for a total of 20, 482 cu. yds. of grading on site. In addition, the project includes a new 10-foot wide, approximately 620 foot long native vegetation buffer, recirculating drainage system, turf management plan, water quality monitoring plan, abandonment of existing unpermitted septic system, installation of a new secondary treatment septic system, and an offer to dedicate the site as a public park pursuant to a settlement agreement.

Because the applicant is seeking to modify a previously approved project, in order to determine the proposed project's consistency with the ESHA policies of the Malibu LUP, the Commission must consider the impact of the proposed modifications on the adjacent Malibu Lagoon. Possible impacts include: 1) increased disturbance of adjacent ESHA, including introduction of non-native invasive plant species, decreased setbacks, and light pollution; and 2) increased impacts on water quality, including increased transport of polluted runoff into the lagoon, and increased freshwater inputs that, via groundwater migration or surface runoff, decrease the salinity of lagoon waters. These potential impacts are discussed in turn below.

Disturbance of adjacent ESHA

The proposed project site consists of an approximately 10 acre property developed as a private park with a storage building, driveway, and golf practice areas. An eight-foot high stone perimeter wall separates the majority of the project site from the adjacent Malibu Lagoon State Park, with the exception of a ten-foot wide strip of land that lies east of the wall and is contiguous with State Park land. Landscaping within the walled area consists of turf and primarily non-native trees, as well as some California sycamores (*Platanus racemosa*). Special Condition One (1) of the original permit required submittal of a landscaping plan, utilizing plants consistent with those on the State Park, for the area east of the wall. The landscaping plan, however, was not implemented, and the area is currently sparsely vegetated with non-native grasses.

The applicant proposes to landscape this area with native plant species consistent with the surrounding habitat. The habitat adjacent to this area consists of mixed scrub, dominated by quail bush, mule fat, coyote brush, and lemonadeberry, as well as some non-native pine trees. The mixed scrub habitat extends approximately 50 to 165 feet east of the applicant's property line, where it transitions into wetland habitat. Thus the distance between the developed portion of the project site and the wetland is approximately 60 to 175 feet. Policy 3.88 of the Malibu LCP requires a minimum 100 foot setback from wetlands, and Policy 3.24 of the Malibu LCP requires a minimum 100 foot setback from park lands. However, the development parameters, including the location of the eight foot high wall that marks the developed portion of the project, were lawfully established under CDP No. 5-82-192. The proposed project does not reduce the setback distance or expand the development area of the project. The applicant proposes to restore native plants in the buffer area between the private park and the wetlands in Malibu Lagoon State Park. This is essentially what was required in CDP 5-82-192, but not implemented. Restoration of this area with native plants will improve the value of this area as a wetland buffer.

The applicant has submitted a report comparing the impacts of the previously approved private park and the as-built golf course ("Comparison of Potential Biological Impacts on Malibu Lagoon Between 1982 Approved Plan for Perenchio Park and Current Park Configuration," Glenn Lukos Associates, December 19, 2002). The report notes that the plant palettes for the approved and as-built parks are very similar, containing primarily non-native trees (as well as some California sycamores) and turf. The approved landscaping plan also contains two invasive non-native trees, Peruvian pepper (*Schinus molle*) and Eucalyptus (*Eucalyptus globulus*), and several planter areas containing ornamental species planted on a seasonal basis. The report concludes that habitat values for the approved and existing parks would not be measurably different, and would primarily provide habitat for urban bird species. The report also concludes that the approved park exhibits a greater potential for invasion of non-native invasive plant species into the lagoon because of the two species of invasive trees included in the approved landscaping plan. These trees are eliminated in the proposed amendment.

Therefore, the proposed modifications to the approved park will not increase the potential for introduction of non-native invasive plant species into the lagoon. As noted above, the proposed project also includes a native landscaping plan for the ten foot wide strip of land adjacent to the lagoon, as required by Special Condition One (1) of the original permit. In order to ensure that the proposed plan is implemented, **Special Condition Eight (8)** requires the applicant to submit a buffer landscaping plan, utilizing a native plant palette consistent with the surrounding habitat, prior to issuance of the permit amendment. In order to ensure that the proposed restoration is successful, **Special Condition Eight (8)** also requires the applicants to submit annual performance reports during a five-year monitoring period.

In order to implement the applicant's offer to execute and record an irrevocable offer to grant the property to the State of California in accordance with the terms and conditions of the Settlement Agreement, **Special Condition Eleven (11)** is required.

As noted above, the Malibu Lagoon provides vital habitat for a variety of wildlife, including several endangered species. The Commission has found, in past permit actions, that night lighting may alter or disrupt feeding, nesting, and roosting activities of both terrestrial and aquatic organisms. Policy 3.56 of the Malibu LCP requires that night lighting be minimized where it would increase illumination in ESHA. Although the applicant has not proposed any lighting for the golf course at this time, in order to mitigate any potential future impacts, **Special Condition Nine (9)** limits the amount of lighting allowed on the site to the minimum necessary for security purposes, and to temporary event lighting to be used no more than three times annually. In addition, in order to ensure that any future site development is reviewed for its potential impacts on ESHA, **Special Condition Ten (10)** addresses future development by ensuring that all future development proposals for the site, which might otherwise be exempt from review, would require prior review so that potential impacts to the adjacent ESHA may adequately be considered. Finally, **Special Condition Twelve (12)** requires the applicant to record a deed restriction that imposes the terms and condition of this permit as restrictions on use and enjoyment of the property and provides any prospective purchaser of the site with recorded notice that the restrictions are imposed on the subject property.

Water Quality

As noted above, the project site is located immediately west of Malibu Lagoon State Park, a designated environmentally sensitive habitat area (ESHA) in the Malibu LCP. Malibu Lagoon is

one of the last large wetlands in Los Angeles County, and provides habitat for federally endangered species including tidewater gobies (*Eucyclogobius newberyyi*), southern steelhead trout (*Oncoryhynchus mykiss irideus*), and brown pelicans (*Pelecanus occidentalis californicus*). In addition, Malibu Lagoon discharges to the Pacific Ocean at Malibu Beach, a popular recreation area.

Currently, surface runoff flows into two large inlets along the southern edge of the property. These inlets tie directly into a large storm drain, which outlets to Malibu Lagoon. Subsurface drainage is collected in an underdrain system located beneath the putting area, which is also tied into the large storm drain. Under current conditions, there is no treatment or filtration (except for natural infiltration) of any runoff from the property.

Because the as-built development drains directly into Malibu Lagoon, the Commission must consider the potential impacts of the proposed modifications on the water quality of the lagoon and surrounding coastal waters. These impacts include increased transport of pollutants into the lagoon and ultimately into ocean waters, and decreased salinity of lagoon waters due to increased freshwater inputs.

The discharge of pollutants such as fertilizers, herbicides, and pesticides can cause cumulative impacts such as eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat including adverse changes to species composition and size; algae blooms that reduce the penetration of sunlight needed by aquatic vegetation, which provides food and cover for aquatic species; disruptions to the reproductive cycles of aquatic species; and acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. Excessive freshwater inputs can contribute to lowered salinity levels in saltwater environments, thus altering the chemical balance upon which saltwater organisms depend.

Commission staff notes that there is concern regarding chemical use and excessive irrigation on site and the potential impacts that these activities may have on water quality in the lagoon and surrounding coastal waters, including groundwater. The applicant has prepared and submitted several plans and reports that address these potential impacts and propose modifications and measures to monitor and protect water quality. The applicant incorporated suggestions made by Heal the Bay and Wetlands Action Network into their plans and proposals.

The applicant has submitted a report containing details of the proposed new drainage system, entitled “Updated Perenchio Park Drainage System Improvements Preliminary Design Report,” by GeoSyntec Consultants, dated December 22, 2003 **(Exhibit 13)**. This report recommends modifications and improvements to the current drainage system, including the elimination of all subsurface drainage connections to the main storm drain, installation of a sump and pump underdrain system, which includes filters, installation of a storage tank and redistribution system for water collected in the underdrain system, and manually controlled valves at the inlets to the main storm drain.

Removing the subsurface drainage connections to the main storm drain will eliminate the direct discharge of runoff containing the highest concentrations of chemicals to the lagoon. This runoff will, instead, enter the underdrain system through inlets or by infiltration, be pumped through a set of filters designed to remove solids and organic matter, contained in the storage tank, and then redistributed on site, allowing for biofiltration prior to discharge or re-collection in the underdrain system. With these drainage improvements, there will be no discharge of surface water from the site during dry weather or during storms up to and including a 1-inch 24-hour

rainfall event, which meets the Los Angeles Regional Water Quality Control Board standard treatment requirement.[2] Therefore, the implementation of the Drainage System Improvements will minimize impacts to water quality of the lagoon and surrounding coastal waters.

The applicant has also submitted a report addressing the use of chemicals on the site, entitled "Turf Management Plan," by David L. Wienecke, dated June 7, 2004 **(Exhibit 14)**. This report defines Best Management Practices (BMPs) for the site, focusing on BMPs concerning irrigation, fertilization, and pest management. The plan goal is to develop and implement biorational maintenance procedures for minimizing pesticide and fertilizer use within an integrated pest management framework. The Turf Management Plan states:

> ***The Park employs both source and treatment control measures to minimize the potential for site activities to negatively affect the nearby surface or ground water. Source control measures include implementation of an integrated pest management plan that prescribes the type, scheduling, and application rate of chemical application at the site to maintain healthy vegetation and control pests. Another component of the source control program at the Park is efficient management of irrigation water to ensure that no surface runoff is generated during irrigation and that the rate of irrigation is matched to the plant's needs.***
>
> ***Treatment control measures include the capture of return flows from the putting area underdrain and surface runoff from smaller sized storm events, mechanical filtration, a 4,000-gallon storage tank for detention of collected flows, and surface application of the collected water. The collected water will be applied to the turf approximately 500 ft. up gradient from the outlet catchbasins from the site allowing for biofiltration, evapotranspiration, and degradation of chemicals that may be entrained in the flow. Stormdrain inlets will be sealed and controlled by valves to prevent any dry-weather or nuisance flows from being released from the site.***
>
> ***With implementation of these best management practices, no dry-weather surface runoff will be discharged from the property and wet-weather flows should only occur during infrequent flood-sized events.***

The report also includes a recommended pesticides list that contains the least toxic chemicals proposed for use. In addition, the irrigation management measures will minimize excessive freshwater input to the lagoon, reducing the potential for impacts to saltwater organisms in the lagoon ecosystem. Therefore, the implementation of the provisions in the Turf Management Plan will minimize impacts to water quality of the lagoon and surrounding coastal waters.

The applicant has submitted a plan for water quality monitoring to provide water quality data that demonstrates that the best management practices proposed for the site adequately protect the Malibu Lagoon and surrounding coastal waters from any potentially negative impacts associated with activities that occur at the park. This plan, entitled "Water Quality Monitoring Plan," by GeoSyntec Consultants, dated June 7, 2004 **(Exhibit 15)**, includes: (a) monitoring for all pollutants of concern; (b) specifying maximum threshold levels for each water quality parameter; (c) specifying sampling protocols; (d) conducting monitoring for at least three years; (e) preparation of annual reports summarizing of monitoring for submittal to Coastal Commission, the City of Malibu and Los Angeles Regional Water Quality Control Board (LARWQCB); and (f)

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[2] Final County of Los Angeles MS4 Permit, (Regional Board Order 01-182, December 13, 2001)

corrective measures to address chemicals that significantly contribute to water quality threshold exceedances after three years. The Water Quality Management Plan states:

> ***The goal of this monitoring plan is to provide a set of standard procedures and protocols to collect data of sufficient breadth and quality so that the impacts management activities at Perenchio Park may have on the water quality of Malibu Lagoon and surrounding coastal waters can be accurately assessed. Additionally, the results of the water quality monitoring will be useful for managing chemical usage on the property to maintain optimal vegetative conditions while minimizing potential for transport of chemicals off site via surface water runoff or groundwater infiltration. This monitoring plan also includes a "contingency plan describing the actions to be taken if water quality impacts are discovered."***

Both return flows collected by the underdrain collection system and stormwater runoff will be sampled for a select list of constituents, including nutrients and pesticides. Return flow sampling will occur at least twice each year for a minimum of three years, and stormwater sampling will occur at least three times each year (weather permitting) for a minimum of three years. During this monitoring, if any water quality thresholds are exceeded, the applicant will notify the Executive Director, report on the possible causes of the exceedances and any proposed corrective actions taken, and consult with Commission and LARWQCB staff regarding the need for additional sampling or corrective actions. In addition, if after three years of water quality monitoring, the average concentration of any parameter exceeds the action threshold for the year-three monitoring data, additional physical improvements or water quality treatment systems will be proposed and implemented as required by the Executive Director. After the initial three-year monitoring period, the Executive Director may permit a reduction in the frequency of monitoring.

The monitoring plan includes sampling to evaluate both surface water and groundwater impacts. Stormwater runoff will be sampled when a storm event occurs that is large enough to produce runoff that enters the main storm drain. Sampling of this stormwater runoff will provide data on the quality of surface runoff entering the lagoon. The groundwater monitoring component includes sampling the return flows during dry weather when the only source of water entering the underdrain collection system will be that which infiltrates through the putting areas (the most heavily irrigated and chemically managed areas). This sampling will provide data on the quality of water that could potentially be infiltrated to groundwater at the site, and will serve as an indicator of potential groundwater impacts.

The Water Quality Monitoring Plan will provide data to evaluate if the best management practices being implemented on site are adequately protecting the water quality of the lagoon and surrounding coastal waters. If any water quality thresholds are exceeded, corrective actions must be taken to reduce pollutants to below threshold levels and minimize water quality impacts. Therefore, the implementation of the provisions in the Water Quality Management Plan will minimize impacts to water quality of the lagoon and surrounding coastal waters.

The proposed drainage improvements, best management practices, and monitoring requirements, as described in the reports and plans discussed above, meet the Water Quality Management Plan requirements prescribed in the Malibu LIP, provided that the plans are properly implemented. Therefore, in order to ensure that these measures to minimize water quality impacts are implemented, **Special Condition Four (4)** requires the applicant to implement the drainage system improvements described in "Updated Perenchio Park Drainage System Improvements Preliminary Design Report," by GeoSyntec Consultants, dated

December 22, 2003 **(Exhibit 13)**; **Special Condition Five (5)** requires the applicant to implement the provisions described in "Turf Management Plan," by David L. Wienecke, dated June 7, 2004 **(Exhibit 14)**; and **Special Condition Six (6)** requires the applicant to implement the provisions described in "Water Quality Monitoring Plan," by GeoSyntec Consultants, dated June 7, 2004 **(Exhibit 15)**. With these measures, the proposed amendment will result in minimal impacts to water quality in the lagoon and surrounding coastal waters and, in fact, will reduce the risks of polluted runoff entering the lagoon.

In addition, the applicant proposes to abandon an unpermitted septic system on the site and to install a new septic system. In order to ensure that the proposed new secondary treatment septic system complies with the policies and provisions of the Malibu LCP pertaining to on-site wastewater treatment systems, and to prevent any water quality impacts that may result from continued operation of the sub-standard septic system, **Special Condition Seven (7)** requires the applicant to submit a report that verifies the new septic system's compliance with the relevant sections of the Malibu LCP and that includes plans and a description of the proposed abandonment of the existing septic system.

Finally, in order to ensure that the unpermitted development component of this application is resolved in a timely manner, **Special Condition Thirteen (13)** requires the applicant to comply with all conditions of the permit within 180 days of Commission action on the permit application.

Therefore, for the reasons discussed above, the Commission finds that the proposed project, as conditioned, is consistent with the ESHA and water quality protection policies of the Malibu LCP.

E. Violations

Development has occurred on the subject site without the required coastal development permits, including the construction of golf facilities, a 985 sq. ft. storage building, septic system, and driveway in a permitted 10 acre private park, changes to the landscaping, irrigation and drainage plans, and approximately 9,000 cu. yds. of additional grading. The originally approved project allowed for approximately 11,500 cu. yds. of grading on site, the as-built project includes 20,482 cu. yds. of grading (2,092 cu. yds. cut, 18,390 cu. yds. fill). The applicant requests after-the-fact approval for the development described above with the exception of the unpermitted septic tank. The applicant also requests approval to construct a new recirculating drainage system, implement turf management and water quality control plans, construct a ten foot wide, approximately 620 foot long native vegetation buffer area, abandon the unpermitted septic system in place, and implement an offer to dedicate the property to the State pursuant to a settlement agreement dated June 24, 2004.

The subject permit application addresses the unpermitted development, as well as the new development proposed in the subject application. In order to ensure that the matter of unpermitted development is resolved in a timely manner, **Special Condition Thirteen (13)** requires that the applicant satisfy all conditions of this permit that are prerequisite to the issuance of this permit within 180 days of Commission action, or within such additional time as the Executive Director may grant for good cause.

Consideration of this application by the Commission has been based solely upon the policies of the Malibu LCP. Review of this permit does not constitute a waiver of any legal action with

regard to the alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit.

F. CEQA

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment.

The Commission finds that the proposed project, as conditioned, will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

6/7/2004

PERENCHIO PARK
Turf Management Plan

David L. Wienecke, Agronomist
USGA Green Section, Southwest Region

Introduction

Special Condition No. 5 recommended by the California Coastal Commission staff in connection with Application No. 5-82-192-A2 (Perenchio) requires the implementation of this Turf Management Plan for the Perenchio Park. The Turf Management Plan defines Best Management Practices (BMPs) for the Park with characteristics typical of a residential lawn and putting green. The plan focuses on BMPs concerning irrigation, fertilization, and pest management for this park.

The plan goal is to develop and implement biorational maintenance procedures for minimizing pesticide and fertilizer use within an integrated pest management framework. Successful implementation of these practices will maintain healthy turfgrass, minimize or eliminate agrochemical environmental impact, and optimize irrigation water use. These procedures follow the environmental stewardship principals of BMPs approved by the Audubon International Cooperative Sanctuary Program for Turf Management. The plan elements are also the same as found in BMPs that have received approval by the National Marine Fisheries Board for protecting salmon in aquatic environments that are adjacent to turf. These criteria are specified because they are based on 15-years of university research in pesticide and agrochemical management and environmental stewardship including aquatic ecosystem impacts nationwide. The research provides criteria used in this plan that are the most conservative and environmentally friendly plan characteristics for protection of coastal resources.

Site Description

Perenchio Park is located south of Pacific Coast Highway in the Civic Center area of the City of Malibu. The property consists of approximately 10-acres that is used for residential recreational uses including golf.

The site is located immediately west of Malibu Lagoon State Park, which is mapped as an environmentally sensitive habitat area (ESHA) in the Malibu LCP. An eight-foot high perimeter wall is maintained as a barrier between Perenchio Park and Malibu Lagoon State Park (Reference: GeoSyntec Consultants: Perenchio Park Drainage System Improvements Preliminary Design Report, December 22, 2003).

The park consists of creeping Bentgrass turf area located on the southwest corner of the park with eight sand features spread throughout the Kentucky Bluegrass and perennial Ryegrass lawn-like park used for various recreational activities. In addition to the turfgrass and the sand features the park is landscaped with trees.

Best Management Practices (BMP) Details

Source Controls and Structural BMPs

The Park employs both source and treatment control measures to minimize the potential for site activities to negatively affect the nearby surface or ground water. Source control measures include implementation of an integrated pest management plan that prescribes the type, scheduling, and application rate of chemical application at the site to maintain healthy vegetation and control pests. Another component of the source control program at the Park is efficient management of irrigation water to ensure that no surface runoff is generated during irrigation and that the rate of irrigation is matched to the plant's needs.

As recommended in the California Storm Water Best Management Practices Handbooks – Municipal (2003) pertaining to municipal landscape, maintenance staff will adhere to the following general guidelines:

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Check the regulatory status of chemicals prior to purchase. Use only chemicals with current approved regulatory status.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use any chemicals if there is a 10% chance of rain within 48 hours of chemical application.
- No irrigation will be applied for 48 hours after chemical application (other than nitrogen).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

Irrigation

- Use automatic timers or weather stations to estimate irrigation needs and minimize runoff.
- Apply water at rates that do not exceed the infiltration rate of the soil.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring.
- Minimize excess watering by repairing leaks in the irrigation system as soon as they are observed.
- Inspect pesticide/fertilizer equipment and transportation vehicles daily.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution. Pesticide application must be under the supervision of a California qualified pesticide applicator.
- Annually train employees responsible for pesticide application on the site's BMPs.
- Prohibit employees who are not authorized and trained from applying pesticides.

Spill Response and Prevention

- Have spill cleanup materials readily available.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- All employees who handle pesticides should be familiar with the most recent material safety data sheet (MSDS) files.

Treatment control measures include the capture of return flows from the putting area underdrain and surface runoff from smaller sized storm events, mechanical filtration, a 4,000-gallon storage tank for detention of collected flows, and surface application of the collected water. The collected water will be applied to the turf approximately 500 ft. up gradient from the outlet catchbasins from the site allowing for biofiltration, evapotranspiration, and degradation of chemicals that may be entrained in the flow. Stormdrain inlets will be sealed and controlled by valves to prevent any dry-weather or nuisance flows from being released from the site.

With implementation of these best management practices, no dry-weather surface runoff will be discharged from the property and wet-weather flows should only occur during infrequent flood-sized events.

<u>Turfgrass cultural maintenance plan</u>

A. Turfgrass Mowing Management – Mowing frequency and height shall be maintained for optimal physiological health. By maintaining turfgrass at it physiological optimum health and vigor the plant will by virtue of high stress tolerance be better able to tolerate disease, insect pests, and weed encroachment. The optimum mowing height and frequency ranges for these grasses are shown below:

Grass/Use	Mowing Height Range	Mowing Frequency Range
Creeping Bentgrass	1/8" to 5/32"	3 to 7 times per week
Bluegrass/Ryegrass	1/2" to 3/4"	1 to 3 times per week

- Grass clippings shall be mulched back onto the course to improve moisture-holding capacity, reduce nutrient loss, and eliminate disposal off site.
- Application of turf growth regulators may be used to reduce mowing frequency requirements and improve surface density for week encroachment reduction.
- Mowing heights may change to improve turfgrass stress tolerance. As an example, mowing heights may be higher during hot summer periods compared to the cooler spring and fall periods.
- Mowers shall be maintained in a sharp, well-adjusted condition to produce a clean consistent cut, thus reducing foliar damage that can contribute to insect pest or disease susceptibility. Engines shall be maintained consistently to reduce air and noise pollution and ensure productive utilization of fuels.
- A wash rack will be utilized that captures equipment washings, separates grass products from petrochemicals consistent with Clean Water Act compliance requirements.
- Fuel shall be stored in compliance with Clean Water Act and Uniform Building and Fire Code requirements. All fueling/lubricating of equipment will be done on paved surfaces. Any spilled fuel or lubricants will clean up immediately using and appropriate absorbent and disposed of according to City regulations.
- All liquid chemicals will be stored in secondary containers

B. Cultivation Management – Frequent cultivation will be done to maximize irrigation effectiveness in the Turfgrass areas. These procedures are essential for maintaining Turfgrass health and vigor while maintaining a viable microbial root zone climate. These procedures are also essential for managing organic matter layers (i.e. thatch). Recommended cultivation schedules are outlined below:

Grass/Use	Cultivation Procedure	Sand Topdressing
Creeping Bentgrass	Core aeration 2-4 X per year and Vertical mow/groom 2-4 X per year	Topdress to fill macropores Light topdress to fill surface voids
Bluegrass/Ryegrass	Core aeration 2 X per year	Grind up cores as topdress

C. Turfgrass Fertility Management – Fertility management will be done to meet turfgrass growth requirements and minimize nutrient loss by volatilization or leaching. Fertility plan goal is to apply only the fertilizer amount needed and used by the plant. By following these criteria applied nutrients are used by the plant to sustain growth while minimizing for potential nutrient runoff or leaching.

A secondary benefit is that less fertilizer is typically applied compared to traditional calendar based fertility programs. Fertilizer application will be made based on a yearly soil test nutrient sufficiency level analysis (SLAN) and daily visual observation. Fertility guidelines are outlined below:

	Fertilizer Rates	Fertilizer Application	Yearly fertilizer amounts
Bentgrass	Foliar spoon-feeding 0.25 lb nitrogen per 1,000 sq.ft. or slow release granular fertilizer at 2 lb. Nitrogen per 1,000 sq.ft.	Foliar application of available nitrogen at 0.25 lb nitrogen per 1,000 sq.ft. or granular application of natural product slow release fertilizer e.g. Sustane® or equivalent	2 to 4 lb nitrogen & potassium & 0.5 lb phosphorous per 1,000 sq.ft per year maximum. Match nitrogen, phosphorous, and potassium and use soil test as criteria for fertility needs
Bluegrass/Ryegrass	2 lb nitrogen per 1,000 sq.ft. of slow release fertilizer per application.	Slow release fertilizer synthetic or natural based	3 to 4 lb nitrogen & potassium & .05 lb phosphorous per 1,000 sq.ft per year maximum. Match nitrogen, phosphorous, and potassium and use soil test as criteria for fertility needs

Since turfgrass requires very little phosphorus, this nutrient will only be applied if indicated by the SLAN not to exceed 0.5 lb. per 1,000 sq.ft. per year.

D. Turfgrass Pest Management – The focus of pest management will be to develop healthy and vigorous Turfgrass, and thus minimize or eliminate pesticide application. The prioritized pest management protocol is outlined below:

- Cultural and mechanical management in conjunction with pest monitoring and scouting based on threshold action levels for the pest. This will include visual observations for pest establishment and removal via weeding, etc.
- Biological treatment (e.g. release of natural enemies such as predacious beetles or nematodes for aphids or insect larva or application of biological agents such as *Bacillus thuringiensis* for moth larvae control)
- Chemical pesticide (e.g. herbicide or fungicide) application is the management option, used only when the other above management options fail to adequately control potential damage. It is the stated purposes of this plan to minimize if not eliminate pesticide (e.g. herbicide or fungicide) application except for cases of severe damage that the turfgrass plant is unable to tolerate without additional actions being taken. A list of approved pesticides and their application times and amounts is in the Appendix A. Only pesticides approved for use in this plan will be applied in this facility. The pesticides were selected because when applied following the Turf Management Plan, in conjunction with the pesticide label requirements, they will likely result in no impact (toxicity) to aquatic life (as per CA DPR and EPA FIFRA) as they have the lowest possible mobility, persistence, and/or toxicity to aquatic life. The following applies to chemical applications:
    i. *Herbicide Application:* Use of the approved herbicides listed in Appendix A shall be restricted to the green at all times, except that no more than 64 ounces of Rodeo and 128 ounces of Blade or Escort may be applied in other areas of the Park during any calendar year. If use of Rodeo or Blade or Escort in excess of the above amounts is required to address a problem that cannot be remedied with these allocations or through other means described above, greater amounts may be used only if 24-hour advance

telephonic and written notice (fax) is provided to the CCC staff, with a written explanation as to the necessity for use. In such instances, application may occur 24 hours after notice is delivered.

ii. *Fungicide Application:* Use of the approved fungicides listed in Appendix A shall be restricted to the green at all times, unless use in other areas of the Park is necessary to address an infestation or problem that cannot be remedied through other means described above. In such cases where use in other areas of the Park is required, 24-hour advance telephonic and written notice shall be provided to the CCC staff, with a written explanation as to the necessity for use. Application may occur 24 hours after notice is delivered.

iii. *Growth Regulator Application:* During the rainy season (November 1 – March 1), use of the approved growth regulator listed in Appendix A shall be restricted to the green, unless use in other areas of the Park is necessary to address an infestation or problem that needs prompt attention. In such cases where use in other areas of the Park during the rainy season is required, 24-hour advance telephonic and written notice shall be provided to the CCC staff, with a written explanation as to the necessity for use. Application may occur 24 hours after notice is delivered.

A designated pesticide storage and mixing area will be established following CA DPR and EPA FIFRA requirements to prevent unintended chemical transport and to assure label use, storage, and application requirements are followed at all times.

Pest concerns, action threshold levels, and actions for this site are outlined below:

Grass/Use	Pest	Action Threshold Level	Action
Bentgrass	Anthracnose disease	1 to 3 active disease spots	Apply fungicide
	Fusarium patch disease	2 to 5 disease spots	Apply fungicide
	Rhizoctonia brown patch or Yellow patch disease	2 to 5 disease spots	Apply fungicide
	Brown Patch	2 to 5 disease spots	Apply fungicide
	Pythium disease	1 to 3 active disease spots	Apply fungicide
	Dollar spot disease	5 disease spots	First apply nitrogen fertilizer to see if turf will grow past disease prior to fungicide application; apply fungicide if necessary
	Grass or broadleaf weeds	0 - 5	Manual removal; apply herbicide if necessary
	Sod wetworm or cutworm	10 – 20	Apply irritant (household bleach at 8 oz/gal of water and mow immediately after.
	White grub	0 to 5	Apply irritant (wetting agent) during pupate stage in late spring and mow immediately after.
	Dollar spot or Brown	10 to 15% area affected	Apply fungicide

Grass/Use	Pest	Action Threshold Level	Action
Bluegrass/Ryegrass	patch		
	Grass or broadleaf weeds	10 to 25% area affected	Manual removal; apply herbicide if necessary

E. Turfgrass Irrigation Management – Irrigation management will include Evapotranspiration (ET) and visual criteria for irrigation application and scheduling. Irrigation management protocols are outlined below:

- Daily rootzone moisture level using a probe to 8" depth will be used to addition to turf condition visual assessment (i.e. soil moisture monitoring).
- ET replacement irrigation criteria will be used following the www.CIMIS.water.ca.gov website for this site or from an on site weather station integrated by a computer modeled ET based controller system. Evapotranspiration models (i.e. ET) include soil moisture, evaporation, and plant transpirational water loss. These are the preferred water conservation models for Turfgrass because they define the current state of the art in terms of plant available water, plant use studies, and technology available.
- Uniformity of irrigation sprinkler water distribution will be assessed and maintained in the 70% to 80% range to minimize water inefficiency. Daily water budgets will be targeted to the replacement ET level to match the water actually needed by the plant.
- Manual spot watering will be used in lieu of irrigation system use to resolve localized dry spot problems.
- Daily reprogramming of irrigation system controllers will be done to fine tune irrigation system application to actual turf needs.
- Application of wetting agents, such as Primer®, Cascade®, Aqueduct®, etc., will be used to reduce hydrophobic areas and increase irrigation efficiency.

The pesticides listed in the Perenchio Park Turf Management Plan are chosen because they are the most biorational and thus low environmentally impacting pesticides available for management of the disease and weed problems at this site. When used according to label and turf management plan criteria no impact to water or aquatic ecosystems is expected. Pesticides that are equivalent to or less toxic to aquatic life than those listed in this plan may be added to this plan or substituted for a listed pesticide upon providing the Coastal Commission staff 15-days prior written notice. In the case of the removal or lack of availability from the market of a listed pesticide, another pesticide may be substituted with prior CCC staff approval. Other pesticides registered for these pests such as Chlorpyrifos, Flutolanil, Triadimefon, Mancozeb, and Imidacloprid are not included in this pest management plan due to human mammalian or aquatic ecosystem toxicity concerns.

Appendix A

Recommended Pesticides List

Herbicides

Trade Name	Chemical Name	Pest Target	Ecological Effects Risk Assessment
Blade™ / Escort™	Metsulfuron methyl	Broad leaf weeds	Metsulfuron methyl is practically nontoxic to fish and aquatic invertebrates. Metsulfuron methyl does not build up (bioaccumulate) in fish. (1)
Rodeo™	Glyphosate	Nonselective weed control	The Accord and Rodeo formulations are practically non-toxic to freshwater fish and aquatic invertebrate animals and permitted for use on aquatic systems. The Roundup formulation is moderately to slightly toxic to freshwater fish and aquatic invertebrate animals. (1)(2)

Fungicides

Trade Name	Chemical Name	Pest Target	Ecological Effects Risk Assessment
Endorse™	Polyoxin D	Anthracnose	"Given the lack of toxicity and limited use sites, this active ingredient is not expected to harm people, pets, wildlife, or the environment when used according to label directions." (3)
Subdue™	Metalaxyl	Pythium Blight	"Metalaxyl poses minimal if any risks to birds, small mammals, fish and estuarine species, honey bees and aquatic plants. The registered uses of metalaxyl do not present an acute hazard to endangered terrestrial and aquatic animals or plant species." (4)
Chipco 26 GT™	Propiconazole	Brown Patch	Slightly to moderately toxic to fish (5)
Heritage™	Azoxystrobin	Anthracnose, Fairy Ring, Fusarium Patch	Low toxicity to mammals, birds, and insects. High toxicity to freshwater fish and invertebrates, however, Azoxystrobin is considered a " Reduced Risk" pesticide because of low mobility and application rates. (6)
Compass™	Trifloxystrobin	Anthracnose, Fairy Ring	Low toxicity to mammals, birds, and insects. High toxicity to freshwater fish and invertebrates, however, Trifloxystrobin is considered a low risk pesticide because of low application rates (7)

Growth Regulators

Trade Name	Chemical Name	Pest Target	Ecological Effects Risk Assessment
Embark™	Mefluidide	Poa annua seed suppression	Slightly to non-toxic to birds, mammals, warm water fish and freshwater invertebrates. Practically non-toxic to coldwater fish and shrimp. (8)

(1) USDA, Pesticide Fact Sheet, Metsulfuron methyl, November 1995.
(2) USEPA, R.E.D. Facts: Glyphosate, EPA-738-F-93-011, September 1993.
(3) USEPA, Pesticide Fact Sheet: Polyoxin D, August 2001
(4) USEPA, Pesticide Fact Sheet: Metalaxyl, September 1994
(5) USDA, Pesticide Fact Sheet: Propiconazole, May 1994
(6) USEPA, Pesticide Fact Sheet: Azoxystrobin, February 1997
(7) USEPA, Pesticide Fact Sheet: Trifloxystrobin, September 1999
(8) USDA, Pesticide fact Sheet: Mefluidide, 1994

Relevant References

Branham, B.E. and Gardner, D.S.; 2002; *How Does Turf Influence Pesticide Dissipation?;* USGA Green Section Record; March-April 2002, pp. 18-20

Cohen, S.; Svrjcek, A.; Durborow, T.; and Barnes, N.L; 1999; *Ground Water Quality. Water Quality Impacts by Golf Courses;* J. Environ. Qual. 28:798-809

Cohen, S.; 1990; *The Cape Cod Study;* Golf Course Management, Feb. 1990; pg. 26-42

Gold, A.J.; Morton, T.G.; Sullivan, W.M.; McClory, J.; 1988; *Leaching of 2, 4-D and Dicamba from Home Lawns;* Water, Air and Soil Poll, v. 37; pp. 121-129

Haith, D.A.; 2002; *Modeling Pesticide Runoff from Turf;* USGA Green Section Record, March-April 2002; pp. 7-9

Horst, G.L.; Shea, P.J.; and Christians, N.; 1995; *Pesticide Degradation Under Golf Course Fairway Conditions;* USGA Green Section Record, January-February 1995; pp. 26-28

Kenna, M.P.; 1995; *What Happens to Pesticides Applied to Golf Courses?;* USGA Green Section Record, January-February 1995; pp. 1-9

Mackay, J.; 2001; *What is a buffer?;* USGA Green Section Record, September-October 2001; pg. 24

Miles, C.J.; Leong, G.; and Dollar, S.; 1992; *Pesticides in Marine Sediments Associated with Golf Course Runoff;* Bull. Environ. Contam. Toxicol. 49:179-185

Pesticide Use in New Jersey: A Survey of Golf Courses and the Lawn Care Industries; 1993; NJDEPE/Rutgers Cooperative Extension Report E174

Pesticides in Ground Water Data Base, 1988 Interim Report; U.S. Environmental Protection Agency, 1988b; Office of Pesticide Programs, Environmental Fate and Ground Water Branch; Washington, D.C.

Perenchio Park

Water Quality Monitoring Plan

Prepared By:

GeoSyntec Consultants

06/07/2004

Table of Contents

Introduction and Organization

Section 1

1.1 Introduction and Purpose

Special Condition No. 6 recommended by the Coastal Commission staff in connection with 5-82-192-A2 for the Perenchio Park property requires the implementation of this Water Quality Monitoring Plan. The purpose of the monitoring plan is to provide water quality data that demonstrates that the best management practices proposed for the site adequately protect the Malibu Lagoon and surrounding coastal waters from any potentially negative impacts associated with activities that occur at the park. This monitoring plan includes: (a) monitoring for all pollutants of concern; (b) specifying maximum threshold levels for each water quality parameter; (c) specifying sampling protocols; (d) conducting monitoring for at least three years; (e) preparation of annual reports summarizing of monitoring for submittal to Coastal Commission, the City of Malibu and Los Angeles Regional Water Quality Control Board (LARWQCB); and (f) corrective measures to address chemicals that significantly contribute to water quality threshold exceedances after three years.

Goals and Objectives of the Monitoring Effort

Section 2

The goal of this monitoring plan is to provide a set of standard procedures and protocols to collect data of sufficient breadth and quality so that the impacts management activities at Perenchio Park may have on the water quality of Malibu Lagoon and surrounding coastal waters can be accurately assessed. Additionally, the results of the water quality monitoring will be useful for managing chemical usage on the property to maintain optimal vegetative conditions while minimizing potential for transport of chemicals off site via surface water runoff or groundwater infiltration. This monitoring plan also includes a "contingency plan describing the actions to be taken if water quality impacts are discovered."

Site Conditions and Characteristics

Section 3

3.1 Site Location and Description

Perenchio Park is located south of Pacific Coast Highway in the Civic Center area of the City of Malibu. The property consists of approximately 10-acres that is used for residential recreational uses including golf.

The site is located immediately west of Malibu Lagoon State Park, which is mapped as an environmentally sensitive habitat area (ESHA) in the Malibu LCP. An eight-foot high perimeter wall is maintained as a barrier between Perenchio Park and Malibu Lagoon State Park (Reference: GeoSyntec Consultants: Perenchio Park Drainage System Improvements Preliminary Design Report, December 22, 2003).

The park consists of creeping Bentgrass turf area located on the southwest corner of the park with eight sand features spread throughout the Kentucky Bluegrass and perennial Ryegrass lawn-like park used for various recreational activities. In addition to the Turfgrass and the sand features, the park is landscaped with trees.

3.2 Hydrology

Perenchio Park is located at the foot of the Malibu Creek watershed. The nearest rainfall gauge for which long-term data is available is the Los Angeles International Airport NCDC station. The LAX station is approximately the same distance inland from the coast and approximately the same elevation as the Park, and there is about 50 years of hourly precipitation data available for the station.

From the historic rainfall record, about seventeen storm events can be expected per year in the Malibu area. About four events per year would be expected to be greater than one-inch in total depth and therefore may have the potential to generate runoff from the Park.

3.3 Best Management Practices and Design Attributes

The Park employs both source and treatment control measures to minimize the potential for site activities to negatively affect the nearby surface or ground water. Source control measures include implementation of a Turf Management Plan that prescribes the type, scheduling, and rate of chemical application at the site to maintain healthy vegetation and control pests. Another component of the source control program at the Park is efficient management of irrigation water to ensure that no surface runoff is generated during irrigation and that the rate of irrigation is matched to the plant's needs.

To prevent dry-weather runoff or nuisance flows from being released from the site, the stormdrain inlets will be sealed and valves installed to allow for controlled release of storm flows during large events.

Treatment control measures include the capture of return flows from the putting area underdrain, mechanical filtration, detention, and surface application of collected water. The collected water will be applied to the turf approximately 500 ft. up gradient from the outlet catchbasins from the site allowing for biofiltration, evapotranspiration, and degradation of chemicals that may be entrained in the flow. With implementation of these best management practices, no dry-weather surface runoff will be discharged from the property and wet-weather flows should only occur during infrequent flood-sized events. Figure 1 shows a plan of the Perenchio Park drainage system.

Figure 1: Perenchio Park Drainage System

Types of Monitoring and Sampling Locations

Section 4

4.1 Types of Water Quality Monitoring

Two types of water monitoring will be conducted at the park, (1) return flows collected by the underdrain collection system will be monitored for nutrients and pesticides, and (2) stormwater runoff will be monitored for a select list of constituents as described below in Section 6.

4.2 Sampling Locations

Stormwater samples will be collected at each of the two-catchbasin outlets just prior to discharge into the main stormwater drainage pipe that drains the Park and surrounding properties. Return flow samples will be colleted from the storage tank outlet.

4.3 Specific Sampling Equipment

A multiparamter stormwater probe similar to the YSI 85 shown below will be used for measuring field parameters.

MEASUREMENT	RANGE	RESOLUTION	ACCURACY
Dissolved Oxygen	0 to 200%	0.1%	±2%
	0 to 20 mg/l	0.01 mg/l	±0.3 mg/l
Conductivity	0 to 49.99 mS/cm	0.01 mS/cm	±0.5% full scale
	0 to 499.9 µS/cm	0.1 µS/cm	±0.5% full scale
	0 to 4999 µS/cm	1.0 µS/cm	±0.5% full scale
	0 to 200.0 mS/cm	0.1 mS/cm	±0.5% full scale
Salinity	0 to 80 PPT	0.1 PPT	±2% or ±0.1 PPT
Temperature	-5 to +95°C	0.1°C	±0.1°C (±1 lsd)

4.4 Monitoring and Maintenance of Drainage System Components

Daily:

- Check irrigation schedule against California Irrigation Management Information System CIMIS data
- Record rainfall accumulated for previous day

Weekly:

- Record water level in storage tank
- Record reading on flow meter at outlet of storage tank
- Visually inspect outlet drains to ensure valves are closed
- Visually inspect irrigation system for maintenance needs (stuck sprinklers, wet spots), repair or adjust as required
- Examine filter screens and clean/replace as necessary

Monthly:

- Clean sump screens

Quarterly:

- Test sump and pump system, maintain/repair as necessary
- Manually activate each irrigation station and adjust/maintain sprinklers as necessary

Yearly:

- Perform water audit on irrigation system

Monitoring Frequency and Event Targeting

Section 5

5.1 Monitoring Frequency

A minimum of three storm events (weather permitting) will be sampled each year for runoff water quality. Samples will be collected at each of the two catch basin outlets just prior to discharge into the main storm drain. No changes to or reductions in monitoring may occur without the approval of the Executive Director of the Coastal Commission.

At least twice each year, samples of the return flows collected in the detention/storage tank will be collected. Samples will be taken the first time the storage tank fills and at least once during wet weather. In addition, if return flows reach the storage tank during dry weather, sampling will occur at least once, and, if possible, twice during this period. No changes to or reductions in monitoring may occur without the approval of the Executive Director

Monitoring at this frequency shall occur for a minimum of three years from implementation of this monitoring plan, after which time, the Executive Director of the Coastal Commission may permit the applicant to reduce this frequency.

5.2 Weather Forecasting and Event Targeting

Daily quantitative precipitation forecasts will be examined as part of the site irrigation management. If an event being tracked has a 75% or greater probability of generating 1 inch of rainfall with in a 24-hour period, preparations will be made for monitoring the event.

Target events should produce a sufficient volume of runoff to cause ponding at the outlets.

Selection of Analytical Parameters

Section 6

This water quality monitoring plan includes stormwater/surface runoff monitoring for all constituents of concern listed in Table 1.

Table 1: Constituents of Concern for Surface Runoff Samples from Perenchio Park

Parameter	Analytical Method	Method Detection Limit	Action Threshold [a]	Unit
Nutrients				
Nitrite as N	EPA 300.0	0.1	[b]	mg/L
Nitrate as N	EPA 300.0	0.1	[b]	mg/L
Total Nitrogen as N	EPA 300.0	0.1	8.0[c]	mg/L
Orthophosphate as P	EPA 365.2	0.002	[b]	mg/L
Ammonia	EPA 350.2	0.1	[b]	mg/L
Total Phosphate as P	SM 4500-P C	0.001	0.3 [d,1]	mg/L
General/Physical Parameters				
Dissolved Oxygen	Field probe	-	[b]	mg/L
Temperature	Field probe	-	[b]	^{o}C
pH	Field probe	-	<6.0 or >8.5	pH Unit
Total Suspended Solids	EPA 160.2	1	[b]	mg/L
Organics				
Pesticides, PCBs	EPA 8081/SM 8082	varies	CTR [2]	
Herbicides	EPA 8141	varies	CTR [2]	
Toxicity				
Acute	EPA 600-4-90-027f		< 90%	% survival

[a] The Action Thresholds contained in this Water Quality Monitoring Plan shall be used to determine whether the various management activities contained in this Plan are warranted. These Action Thresholds are not intended to affect any Total Maximum Daily Loads (TMDLs) that may be adopted in the future by the Regional Water Quality Control Board. Any Total Maximum Daily Loads adopted in the future by the Regional Water Quality Control Board also shall not be substituted for the Action Thresholds contained herein, because the regulatory purpose and responses differ.

[b] These parameters are being monitored for informational purposes only therefore no action threshold is provided

[c] Nitrogen thresholds are based on the proposed Total Maximum Daily Loads for Nutrients, Malibu Creek Watershed

[d] Phosphorous threshold based on the Redfield atomic ratio of 550:30:1 Carbon:Nitrogen:Phosphorous for estuarine plants normalized to the proposed 8 mg/L nitrogen threshold. Value rounded to the nearest 1/10th mg/L

(1) Nutrient Criteria Technical Guidance Manual, Estuarine and Coastal Marine Waters, USEPA, October 2001

(2) CTR California Toxics Rule Acute Freshwater Criteria as listed in the USEPA 40 CFR Part 131, 2000

In addition, Table 2 provides a list of compounds that will be sampled for in the return flows:

Table 2: Constituents of Concern for Return Flow Monitoring and Action Thresholds

Parameter**	Analytical Method	Method Detection Limit	Action [a] Threshold	Unit
Total Nitrogen	EPA 300	0.1	8.0 [b]	mg/L
Total Phosphorous	EPA 365.2	0.002	0.3 [c,1]	mg/L
Metsulfuron methyl*	Manufacturers Method	0.00003	4.7 [d,2]	mg/L
Glyphosate*	EPA 547	0.010	6.4 [d,3]	mg/L
Azoxystrobin*	EPA 632	0.06	44 [d,4]	ug/L
Metalaxyl*	8270 Modified	0.0003	1.2 [d,5]	mg/L
Propiconazole*	8081 Modified	0.12	3.2 [f,6]	ug/L
Trifloxystrobin*	EPA 608	0.06	2.7[d,7]	ug/L

[a] The Action Thresholds contained in this Water Quality Monitoring Plan shall be used to determine whether the various management activities contained in this Plan are warranted. These Action Thresholds are not intended to affect any Total Maximum Daily Loads (TMDLs) that may be adopted in the future by the Regional Water Quality Control Board. Any Total Maximum Daily Loads adopted in the future by the Regional Water Quality Control Board also shall not be substituted for the Action Thresholds contained herein, because the regulatory purpose and responses differ.

[b] Nitrogen thresholds are based on proposed Total Maximum Daily Loads for Nutrients, Malibu Creek Watershed

[c] Phosphorous threshold based on the Redfield atomic ratio of 550:30:1 Carbon:Nitrogen:Phosphorous for estuarine plants normalized to the proposed 8 mg/L nitrogen threshold. Value rounded to the nearest 1/10th mg/L

[d] Value based on lowest No Observed Effect Level (NOEL) or No Observed Effect Concentration (NOEC) for the most sensitive aquatic species

[f] Value based on 1/1000th of the LC50 for most susceptible aquatic species (Daphnia magna)

(1) Nutrient Criteria Technical Guidance Manual, Estuarine and Coastal Marine Waters, USEPA, October 2001

(2) (2) USDA, Forest Service, Metsulfuron methyl (Escort)-Final Report, SERA TR 99-21-01f, March 2001.

(3) Monheit, Susan, Glyphosate-Based Aquatic Herbicides An Overview of Risks, California Department of Food and Agriculture, April 2003.

(4) Pesticide Fact Sheet, Aoxystrobin, USEPA, February 1997

(5) European Commission on Heath and Consumer Protection, Commission Working Document-Metalaxyl, September 2002

(6) EXTONET, Pesticide Information Profile, Propiconazole, October 1997

(7) European Commission on Heath and Consumer Protection, Commission Working Document-Trifloxystrobin, April 2003

* Indicates chemical is a pesticide

** Because of their low toxicity, use of the fungicide Polyoxin-D and the growth regulator Mefluidide are permitted in the Turf Management Plan; however, since there are currently no analytical methods available for detecting these chemicals in surface water, they are not included in these analytical parameters.

Sample Collection Procedures

Section 7

7.1 Clean Sampling Techniques

Clean sample collection techniques should be followed to minimize the potential for contamination of stormwater runoff samples. Care must be taken during all sampling operations to avoid contamination of the water samples by human, atmospheric, or other potential sources of contamination. The monitoring team should prevent contamination of any of the following items: composite bottles, lids, sample, tubing, and strainers. Whenever possible, samples should be collected upstream, and upwind of sampling personnel to minimize contamination.

7.2 Sampling Equipment

Grab Sampling Methods and Equipment

Time weighted composite samples will be collected from each outlet during the storm event over a 6-hour period and will include an estimate of the total flow of the sampled storm. A minimum of eight discrete samples will be collected and composited, 2-liters every ½-hour.

- Two person clean sampling team: one "dirty hands" to move equipment and remove inlet grates. One "clean hands" to handle sampling equipment and bottles.
- Sample blank to be determined by sampling team at time of event.

Using a clean beaker, collect 2 liters per grab. Collect the sample from the middle of the flow stream and composite in the field into first 2-gallon container. Screw on the lid and place on ice in the cooler. Once full begin filling the second 2-gallon container with 2-liter samples following the protocol listed above.

Collect the sample from the middle of the flow stream. Pour the sample from the bailer into the autoclaved bottle. Fill the bottle to just below the neck. Screw on the lid and place on ice in cooler. Fill out the field data sheet.

7.3 Sample Packing and Shipping

Monitoring personnel will deliver the samples to the laboratory. Sample bottles will be placed in coolers or some other package that is rigid enough to provide protection of the samples and has insulative properties to keep samples cold. During packing, the sample from one monitoring location should not be separated into separate shipping containers unless bottles of one size need to be shipped together because of container size.

If samples from a location are separated a copy of the field-sampling sheet pertaining to the bottles will be enclosed in each shipping container. Prior to shipping, all sample bottles will be recorded on the packing lists, which will include the shipping date and the method of transporting the samples. Samples must be delivered to the analytical laboratory within 4 hours of sampling to ensure the maximum holding time for bacteria of 6 hours is not exceeded.

7.4 Chain of Custody

After samples have been obtained and the collection procedures properly documented, a written record of the chain of custody of each sample will be made. This record ensures that samples have not been tampered with or inadvertently compromised in any way, and it also tracks the requested analysis for the analytical laboratory. "Chain of Custody" (COC) refers to the documented account of changes in possession that occur for samples. The Chain of Custody record tracks the sampling path from origin through laboratory analysis. Information necessary in the chain of custody include:

- Name of the person collecting the sample(s)
- Date and time of sample collection
- Location of sample collection
- Names and signatures of all persons handling the samples in the field and in the laboratory
- Laboratory analysis requested and control information (e.g., duplicate or spiked samples etc.) and any special instructions (e.g., time sensitive analyses)

To ensure that all necessary information is documented a COC form will accompany each sample or set of samples. COC forms will be printed on multipart carbonless paper so that all personnel handling the samples may obtain a copy. A COC record should accompany all sample shipments and the sample originator should retain a copy of the forms. When transferring custody of samples the transferee should sign and record the date and time of each transfer. Each person who takes custody should complete the appropriate portion of the chain of custody documentation.

Quality Assurance and Quality Control

Section 8

Quality Assurance and Quality Control for sample analysis will be in accordance with USEPA guidelines (See SOP A-7).

Data Management and Reporting

Section 9

Results will be reported by the laboratory as hard copy and as electronic files. Hard copy data will be entered into an electronic format, and checked at least once by a different person than did the data entry. Electronic submittal of results will be discussed with the analytical lab in advance of delivery and its format arranged. A separate record will be generated for each sample analysis.

In addition, the key information such as; station ID, sample date and time, name of sampler, name of constituent), all results, units, detection limits, EPA methods used, name of the laboratory, and any field notes will be entered into the database. Additional information, such as compositing of multiple samples, or the use of grab or automatic samples, will also be included.

When reporting the laboratory results for each stormwater sample the following information will be provided:

- Sample site
- Sample date and time
- Sample number (or identification)
- Sampling technician(s)
- Detection Limit and Reliability Limit of analytical procedure(s)
- Sample Results with clearly specified units
- Written key to all data qualifiers reported

Results of surface runoff monitoring will be submitted in an annual report to the Executive Director of the California Coastal Commission and the City of Malibu. Results of underdrain collection system/return flow monitoring will be submitted in an annual report to the Executive Director of the California Coastal Commission, the City of Malibu and the Executive Officer of the LARWQCB. If any water quality thresholds established in this monitoring plan are exceeded, the applicant (or its successor in interest) will notify the Executive Director of the California Coastal Commission of the exceedances and the potential impacts within two business days of receipt of the monitoring data. The applicant will report to the Executive Director of the California Coastal Commission and the Executive Officer of the LARWQCB on the possible causes of the exceedances and any proposed corrective actions taken within 30 days of the initial receipt of the data. At the same time, the applicant will consult with the California Coastal Commission and LARWQCB staff regarding the need for additional sampling to evaluate the exceedance or corrective action to minimize water quality impacts.

Contingency Plan

Section 10

10.1 Surface Runoff

Surface water runoff is expected to occur only during large storm events. A minimum of three storm events per year will be sampled for the parameters listed in Table 1.

If water quality monitoring results exceed any of the threshold criteria, the following actions will be taken:

10.1.1 Phosphorous

If phosphorus concentrations in runoff samples exceed the 0.3 mg/L threshold criteria in any single sample, no phosphorous containing fertilizers or pesticides will be applied to the site until subsequent monitoring results are below the threshold. A soil nutrient assay (SLAN) will be performed the following spring. If the SLAN results indicate that the soil is deficient in phosphorous, the nutrient may be applied as prescribed by the SLAN.

10.1.2 Nitrogen

If nitrogen concentrations in winter runoff samples exceed the 8.0 mg/L threshold criteria in any single sample, no nitrogen containing fertilizers or pesticides will be applied to the site until subsequent monitoring results are below the threshold. A soil nutrient assay (SLAN) will be performed the following spring. If the SLAN results indicate that the soil is deficient in nitrogen, nitrogen may be applied as prescribed by the SLAN.

10.1.3 Organics, Pesticides, Herbicides

If any of the specific California Toxics Rule Freshwater Acute Toxicity Criteria (CTR) are exceeded in any single stormwater runoff sample, these specific chemicals will not be applied to the site until either the source of the exceedence is determined and eliminated or subsequent sampling shows no exceedances of the criteria.

10.1.4 Toxicity

If toxicity results show less than 90% survival of any of the indicator species resulting from exposure to stormwater runoff samples, no toxic chemical may be applied to the site until either the source of the toxicity is eliminated or subsequent sampling shows 90 % or greater survival.

10.2 Return Flow Samples

Excess irrigation water that infiltrates through the putting area and surface runoff from smaller storm events from the entire site will be captured via a sump and pump system and stored in a collection tank. This collected water will be recycled for irrigation of specific portions of the

property. At least twice each year, the return flow will be sampled and analyses performed for specific chemicals applied to the site (see Table 2)

If any of the chemicals (other than nutrients) are found in the return flows at levels above the action threshold, stored water will be pumped from tank and the tank will be flushed. All water pumped from the tank, including flush water, will be taken to an approved sanitary waste disposal facility. Use of the specific chemical(s) will be prohibited until follow-up results (e.g. subsequent monitoring) show concentrations are below the threshold values. The annual nutrient requirements for the areas that return flows are applied will be adjusted to account for nutrient concentrations in the return flows.

10.3 Corrective Measures

At the end of the third year of monitoring, the data that has been collected will be summarized using the appropriate statistical methods for the distribution of the data set. If after three years of water quality monitoring, the average concentration of any parameter exceeds the action threshold for the year-three monitoring data, additional physical improvements or water quality treatment systems, consistent with the recreational and golf uses on-site and designed to contain on-site and/or treat water containing pollutants exceeding water quality threshold levels, will be proposed to the Executive Director of the Coastal Commission. The proposed physical improvements or water quality treatment systems will be implemented as required by the Executive Director of the Coastal Commission.

General Standard Operating Procedures for Stormwater Monitoring (SOPs)

Appendix

A

SOP A-1 Weather Tracking and Monitoring Preparation

The Storm Event Coordinator will review the daily National Weather Service forecasts (www.nws.noaa.gov) and track all potential rainfall events. If an event being tracked has a 75% or greater probability of generating 1.0" of rainfall within a 24 hour period, the Monitoring Team will go into the "Prepare Mode".

Monitoring Team "Prepare Mode"

- Order bottles from lab and alert lab of possible monitoring activities (may want to keep a supply on hand during monitoring season)
- Assemble field equipment
- Arrange team members schedule for field activities
- Arrange vehicle for monitoring activities

The Storm Event Coordinator will frequently check the Weather Service Forecast and if the forecast still predicts a target magnitude event at 48 hours before its arrival, the Monitoring Team will be placed in a "Stand-By Mode".

Monitoring Team " Stand-By Mode"

- Identify Monitoring Team and arrange schedules for field activities
- Check bottle inventory against station check list
- Initiate chain of custody procedure
- Bench test and calibrate all field equipment
- Confirm team members schedules for field activities
- Arrange for vehicle to conduct monitoring activities

At 24 hours before the event is predicted to arrive if there is still a 75% probability that the storm will generate 1.0" of rainfall within 24 hours a monitoring "Alert" will be issued.

Monitoring Team "Alert Mode"

- Label bottles
- Ensure a sufficient amount of ice for sampling and sample transport
- Set up sampling equipment at sites (preferably during daylight hours)

At 12 hours before a target event is scheduled to arrive, a Go/No-Go decision on monitoring will be made by the Storm Event Coordinator.

Monitoring Team "Go"

- Mobilize Monitoring Team

Monitoring Team "No-Go"

- Retrieve sampling equipment
- Inventory, clean, organize, and prepare sampling equipment for next event.

Once precipitation has begun the Monitoring Team will go into "Sample Mode"

Monitoring Team "Sample Mode"

SOP A-2 Bottle Organization

- Bottles of proper size and material and sufficient quantity should be prepared by the analytical lab and delivered to the Monitoring Team at least 48 hours prior to the sampling event (see sample bottle order form). Bottles should be inventoried and checked against the SSOPs for each monitoring station.
- An 80-quart Environmental Cooler should be prepared and clearly labeled for each monitoring event. The cooler should include the required bottles for sampling at that as well as bottles for blanks and duplicates as required by QA/QC plan.
- All sample bottles should be labeled prior to placement in sampler and as much information as possible should be filled out on the labels when bottles are dry. A second label or corresponding Sample ID No. should be place on sample bottle lid.
- One set of clean beakers in Ziploc bags (1-250 ml and 1-500 ml.) should be placed in coolers with bottles.
- Powder free nitrile gloves should be worn whenever handling clean bottles.

SOP A-3 Clean Sampling Techniques

Sample collection personnel should adhere to the following rules while collecting stormwater samples to reduce potential contamination.

General

- No Smoking
- Do not park vehicles in immediate sample collection area, do not sample near a running vehicle.
- Always wear clean powder-free nitrile gloves when handling composite bottles, lids, sterile grab sample bottles, tubing, or strainers.
- Never touch the inside surface of a sample bottle, lid, or sampling tube (even with gloved hands) to be contacted by any material other than the sample water.
- Never touch the exposed end of a sampling tube.
- Never allow any object or material to fall into or contact the collected sample water.
- Avoid allowing rainwater to drip from rain gear or other surfaces into sample bottles.
- Do not eat or drink during sample collection.
- Do not breathe, sneeze, or cough in the direction of an open sample bottle.

Equipment Decontamination Procedures

Non-dedicated sampling equipment will be properly cleaned before sample collection Non-dedicated equipment may include:

- Teflon or fluoropolymer scoops buckets used to collect manual grab samples
- Water quality probe for field parameter measurements

Scoops and buckets used to transfer samples into the sample bottles required for will be cleaned as follows:

- Clean with tap water and phosphate-free laboratory detergent such as Liquinox®
- Rinse thoroughly with tap water
- Rinse thoroughly with analyte-free water
- Air dry

Before the water quality probe is used at each site, the probe will be double-rinsed with analyte-free water.

SOP A-4 Outlet Operation

The valves on the outlets to the stormdrain should be in the closed position and sufficient water should ponded near the outlet to allow for sampling (one foot deep minimum).

- Open slide gate by pulling handle up
- Collect samples as described in section 7.2
- If runoff ceases before sampling is complete, close side gate before leaving site
- If runoff is still present upon completion of sampling, leave slide gate open. Close slide gate upon return to site for normal work.

SOP A-5 Grab Sampling

Grab sample technique is described as follows:

- Put on sterile nitrile gloves
- Adhere to clean sampling techniques in SOP-A3
- Remove lid of sample bottle
- Place lid top down on a clean surface out of the rain or hold in hand while taking sample, do not allow inside of lid to contact any objects.
- Fill sample bottle directly from flowing stream with bottle opening facing upstream.
    - Avoid touching sample bottle to the bottom of the stream or any fixed object.
    - Avoid capturing floating or suspended plant material in sample.
- Replace lid on sample bottle
- Fill out label on sample bottle and place in cooler

SOP A-6 Chain of Custody Records

A chain of custody record (COC) is a legal document designed to track samples and persons who are responsible for them during preparation of the sample container, sample collection, sample delivery, and sample analysis. These forms are supplied by the analytical laboratory that performing the sample analysis. The procedures for filling out these forms are as follows:

Prior to sampling

After bottles are labeled placed in coolers, fill out general information on COC form including:

- Company information and Client Code
- Project Name
- Sample Site ID
- Matrix
- Date
- Sample Numbers (unique to each bottle, see SSOPs for labeling instructions)
- Type of sample

Place COC in a Ziploc bag and tape to the lid of the cooler

After Sampling is complete

After sampling has been completed, fill out remainder of the COC including:

- Time sampling was initiated
- Number of containers
- Comments or special instructions (see SSOPs)
- Disposal requirements

Replace in Ziploc bag and tape to lid of cooler

At Laboratory or Transfer to Another Person

Whenever custody of the samples is relinquished:

- Sign and date
- Have new custodian sign and date
- Relay any special instructions
- Take one copy of COC for your records

SOP A-7 Transporting, Packaging, and Shipping Samples from the Field to the Laboratory

- Clearly mark the analyses to be performed for each sample.
- Fold the field-sampling sheets and chain of custody record form and place them in plastic bags to protect the sheets during transport. Tape COCs to the lid of the cooler.
- Pack samples well to prevent breakage or leakage (samples should already be labeled) and provide additional protection for glass sample bottles (e.g. foam or bubble wrapping).
- Sample should be packed in ice or an ice substitute to maintain a sample temperature of 4°C during shipping. Ice (or substitute) should be placed in double wrapped watertight bags to prevent leaking during shipping.
- Using duct tape or packing tape, wrap the cooler twice to seal the opening.
- On the sealing tape, write the date and time the sample container was sealed
- Affix destination, identification, and FRAGILE labels to each shipping container.
- Samples must be delivered to the analytical laboratory within 4 hours of sampling to ensure the maximum holding time for bacteria of 6 hours is not exceeded.

SOP A-8 Quality Assurance and Quality Control

The quality assurance/quality control (QA/QC) program will be implemented to satisfy the data quality objectives of the monitoring program. The primary data quality objectives are to obtain defensible data of acceptable sensitivity and quality to:

- evaluate the stormwater management program, and
- evaluate stormwater quality.

Analytical accuracy and precision are two parameters typically used to evaluate data quality. Accuracy is defined as the closeness of agreement between an observed value and an accepted reference value. Accuracy is expressed as percent recovery:

$$\%R = \frac{X}{T} x100 \qquad (10\text{-}1)$$

where:

% R	=	Percent recovery
X	=	Observed value of the measurement
T	=	True value of the measurement

The analytical laboratory selected for this study will evaluate the accuracy of its sample extraction and/or analytical procedures using spike samples, which may include matrix spikes (MS), laboratory control samples (LCS) and surrogate spikes. Acceptable spike recoveries must fall within statistically derived laboratory "control limits".

Precision is the agreement among a set a replicate measurements of the same parameter. Precision is quantified by calculating the relative percent difference (RPD) between duplicate measurements:

$$RPD(\%) = \left(\frac{(C_1 - C_2)}{\left[\frac{C_1 + C_2}{2} \right]} \right) x100 \qquad (10\text{-}2)$$

where:

C1	=	First sample result
C2	=	Second sample result

The analytical laboratory will evaluate precision by performing matrix spike duplicate (MSD), laboratory control sample duplicate (LCSD) and duplicate stormwater sample analyses (typically performed for inorganic parameters only). Acceptable RPDs must meet the precision criteria established by the laboratory.

The data quality objectives also include obtaining data that are comparable and representative of the water quality conditions at each monitoring location. Comparable data will be collected if comparable sampling, analysis, QA/QC and reporting procedures are implemented throughout the monitoring program. Representative samples will be collected by performing sampling activities compliant with the procedures described in this monitoring plan. Duplicate samples will be collected and the results will be used to evaluate representativeness.

Comparability expresses the confidence with which one data set can be compared to another. Data are comparable if collection techniques, measurement procedures, methods, and reporting are equivalent for the samples within a sample set.

volume for the sample selected as the matrix spike sample. Field personnel will identify the MS/MSD sample on the chain-of-custody form .

Laboratory Quality Control

This section summarizes the QC procedures the laboratory must perform and report with the analytical data packages. These procedures are not inclusive of the QA/QC that is required for compliance with the analytical method. The laboratory will be required to implement all procedures required by the analytical methods listed in Section 6, and to implement the Standard Operating Procedures documented in its Quality Assurance Plan. The required frequency for QC procedures and evaluation criteria are summarized in Table 10.1.

Method Blanks

A method blank is prepared using reagent-grade water, and is extracted and analyzed with each sample batch (typically 20 samples extracted and/or analyzed on a given day). Method blank results are used to identify potential sources of sample contamination resulting from laboratory procedures. Target analytes should not be detected in the method blank above the practical quantitative limit.

Matrix Spike and Laboratory Control Samples

Matrix spikes (MS), matrix spike duplicates (MSD), laboratory control samples (LCS) and laboratory control sample duplicates (LCSDs) are performed by the laboratory to evaluate the accuracy of the sample extraction and analysis procedures. MS/MSDs are also performed to evaluate matrix interference. Matrix interference is the effect of the sample matrix on the analysis, which may partially or completely mask the response of the analytical instrumentation to the target analyte(s). Matrix interference may affect the accuracy of the extraction and/or analysis procedures to varying degrees, and may bias the sample results high or low.

The MS/MSD is prepared by adding known quantities of target analytes to a sample. The sample is then extracted and/or analyzed as a typical environmental sample, and the results are reported as percent recovery. The percent recovery for the MS/MSD analysis is expressed as:

$$\%R = \left(\frac{C_{obs} - C_{org}}{C_s} \right) x100 \qquad (10\text{-}3)$$

where:

% R = Percent recovery

Cobs = Concentration measured in MS analysis

Corg = Concentration measured in un-spiked sample analysis

Cs = MS concentration

The LCS/LCSD is prepared exactly like a MS/MSD, except a clean control matrix such as reagent-grade water is used. The LCS recoveries are used to evaluate the accuracy of the analytical procedures, independent of matrix effects (see Equation 10-1).

Surrogates Spikes

Surrogate spikes are performed for organic analysis method only. Surrogates are organic compounds that are similar to the target analytes in terms of their chemical structures and response to the analytical instrumentation, but are not usually detected in environmental samples. Surrogates will be added to each environmental sample and laboratory QC sample per the analytical method to monitor the effect of the matrix on the accuracy of the extraction and/or analysis. Surrogate analysis results are reported as percent recovery (Equation 10-1).

Duplicate Analyses

The laboratory will perform duplicate analyses that may include LCSD, MSD and replicate stormwater sample analyses (for inorganic methods only). The laboratory will evaluate the precision of the duplicate analyses by calculating RPDs (Equation 10-2).

Data Reduction and Validation Requirements and Methods

Laboratory Requirements

Laboratory data reduction and validation requirements will be consistent with the procedures documented in the laboratory Quality Assurance Plan and Standard Operating Procedures (SOPs). Data review will be performed by the project manager and the laboratory QA officer. Generally, the review will determine whether or not the:

- Sample preparation information is correct and complete.
- Analysis information is correct and complete.
- The appropriate SOPs have been followed.
- Analytical results are correct and complete.

- QC samples are within established control limits.
- Special sample preparation and analytical requirements have been met.
- Documentation is complete.
- Data reduction and validation steps are documented, signed, and dated by the analyst.

Independent Data Review Process

The analytical data received from the laboratory will be independently reviewed by the Project chemist to evaluate if the data are of acceptable quality to satisfy the project data quality objectives. The data quality evaluation will be performed following USEPA guidelines. Guidance is provided in the following documents:

- USEPA Guidance on the Documentation and Evaluation of Trace Metals Data Collected for Clean Water Act Compliance Monitoring (April 1995).
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999).
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994).

A summary of the evaluation criteria that will be used for the independent data review process is provided in Table 10.1. The data qualifiers that will be used to flag analytical results associated with QC parameters outside the evaluation criteria are defined below. All qualifiers are defined by USEPA, with the exception of the "H" qualifier.

UJ -- The analyte was not detected above the reporting limit. However, the non-detect concentration is considered an estimated value.

U -- The analyte was detected, however due to potential sample contamination from laboratory procedures, sampling equipment, sample handling or transportation to the laboratory, the sample reporting limit was raised to the concentration detected in the sample.

J -- The analyte was positively identified. However the result should be considered an estimated value.

R -- The sample result is rejected due to serious deficiencies in the ability to analyze the sample in compliance with the QC criteria or other laboratory protocols.

H -- The reported petroleum hydrocarbon concentration is not representative of the fuel specified for analysis.

Table 10.1 : Summary of Quality Control Evaluation Criteria and Data Usability

QC Parameter	Applicable Method	Frequency	Conditions Under Which Data May be Qualified	Reanalysis Required?	Use of Qualified Data	Reference
Method Blank	Organic and Inorganic Methods	One per sample batch (i.e., 20 samples of a similar matrix analyzed within a 12-hour period)	Detection of Common Laboratory Contaminants in Blank* If the sample concentration is less than 10 times the associated method blank concentration, the sample result is qualified by raising the quantitative limit to the concentration detected in the sample. If the sample result is greater than 10 times the method blank concentration, no qualification is necessary. Detection of Other Analytes in Blank: If the sample concentration is less than 5 times the associated method blank concentration, the associated sample result is qualified by raising the quantitative limit to the concentration detected in the sample. If the sample result is greater than 5 times the method blank concentration, no qualification is necessary.	Yes	Qualified results should be reported as non-detect	USEPA 1994, 1995, 1999
Field Duplicate Samples	Organic and Inorganic	One per event	Concentrations at least 5 times the quantitative limit: if the relative percent difference between the original and duplicate sample result exceeds 25 percent, sample results are qualified as **J.** Concentrations less than 5 times the quantitative limit: if the relative percent difference between the original and duplicate sample result is greater than the quantitative limit, detected sample results are qualified as **J.** If one result is below the quantitative limit, the quantitative limit shall be used to calculate the relative percent difference. If the relative percent	No	Results qualified as **J** and **UJ** should be considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to fulfill the project data quality objectives	USEPA 1994, 1995

Table 10.1 : Summary of Quality Control Evaluation Criteria and Data Usability

QC Parameter	Applicable Method	Frequency	Conditions Under Which Data May be Qualified	Reanalysis Required?	Use of Qualified Data	Reference
			difference between the original and duplicate sample is greater than the quantitative limit, the non-detect result is qualified as **UJ** and the detected result is qualified as **J.** Exceedingly high relative percent differences (e.g., 100%) will be qualified based on professional judgment. These data may be qualified as **R** (rejected).			
Matrix Spike/ Matrix Spike Duplicate	Organic and Inorganic	One per sample batch (i.e., 20 samples of a similar matrix analyzed within a 12-hour period)	Organic analyses are not qualified based on matrix spike data alone. Inorganics: Data are qualified only if the original sample concentration does not exceed the matrix spike concentration by greater than 4 times. If MS recovery is above the upper laboratory control limit, detected results are qualified a **J**, and non-detect results are not qualified. If the MS recovery is below the lower laboratory control limit, but is greater than 30%, detected results are qualified as **J**, non-detect results are qualified as **UJ.** If the MS recovery is below 30%, detected results are qualified as **J** and non-detected results are qualified as **R** (rejected).	No	Results qualified as **J** and **UJ** should be considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to fulfill the project data quality objectives	USEPA 1994, 1995, 1999

Table 10.1 : Summary of Quality Control Evaluation Criteria and Data Usability

QC Parameter	Applicable Method	Frequency	Conditions Under Which Data May be Qualified	Reanalysis Required?	Use of Qualified Data	Reference
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Organic	One per sample batch (i.e., 20 samples of a similar matrix analyzed within a 12-hour period)	If the LCS recovery is above the upper laboratory control limit, associated detected analytes are qualified as **J**. Non-detect associated analytes are not qualified. If the mass spectral criteria are met but the LCS recovery is below the lower control limit, associated detected analytes are qualified as **J** and associated non-detect analytes are qualified as **R** (rejected). If more than half the compounds in the LCS are not within the laboratory control limits, all associated detected analytes are qualified as **J** and all associated non-detect analytes are qualified as **R** (rejected). *Professional judgment will be used to qualify sample data for the specific compounds that are not included in the LCS solution.*	Yes, to verify recoveries outside laboratory control limits	Results qualified as **J** should be considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to fulfill the project data quality objectives	USEPA 1999
	Inorganic		If the LCS recovery is above the laboratory control limits, detected results are qualified as **J**. Non-detect results are not qualified. If the LCS recovery is below the laboratory control limits but greater than 50%, detected results are qualified as **J** and non-detect results are qualified as **UJ**. If the LCS recovery is below 50%, detected results are qualified as **J** and non-detect results	Yes, to verify recoveries outside laboratory control limits	Results qualified as **J** and **UJ** should be considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to	USEPA 1994, 1995

Table 10.1 : Summary of Quality Control Evaluation Criteria and Data Usability

QC Parameter	Applicable Method	Frequency	Conditions Under Which Data May be Qualified	Reanalysis Required?	Use of Qualified Data	Reference
			are qualified as **R** (rejected).		fulfill the project data quality objectives	
Surrogates	Organic	Added to every environmental and batch QC sample	Volatile Organic Compounds If a surrogate recovery is above the upper laboratory control limit, detected sample results are qualified as **J**. Non-detect results are not qualified. If a surrogate recovery is below the lower laboratory control limit but above 10%, detected results are qualified as **J** and non-detect results are qualified as **UJ**. If a surrogate recovery is less than 10%, detected results are qualified as **J** and non-detect results are qualified as **R** (rejected). Pesticides The guidance above for volatile organic compounds will be used but professional judgment will be used in applying these criteria as surrogate recovery problems may not directly apply to target analytes.	Yes, to confirm non-compliance is due to sample matrix effects rather than laboratory deficiencies	Results qualified as **J** and **UJ** should be considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to fulfill the project data quality objectives	USEPA 1999
Laboratory Replicate Analysis	Inorganic	One per sample batch (i.e., 20	Concentrations at least 5 times the quantitative limit: if the relative percent difference between	Yes	Results qualified as **J** and **UJ** should be	USEPA 1994

Table 10.1 : Summary of Quality Control Evaluation Criteria and Data Usability

QC Parameter	Applicable Method	Frequency	Conditions Under Which Data May be Qualified	Reanalysis Required?	Use of Qualified Data	Reference
Replicate Analysis		samples of a similar matrix analyzed within a 12-hour period)	the original and duplicate sample result exceeds the laboratory control limit, sample results are qualified as **J.** <u>Concentrations less than 5 times the quantitative limit:</u> if the relative percent difference between the original and duplicate sample result is greater than the quantitative limit, detected sample results are qualified as **J.** If one result is below the quantitative limit, the quantitative limit shall be used to calculate the relative percent difference. If the relative percent difference between the original and duplicate sample is greater than the quantitative limit, the non-detect result is qualified as **UJ** and the detected result is qualified as **J.** Exceedingly high relative percent differences (e.g., 100%) will be qualified based on professional judgment. These data may be qualified as **R** (rejected).		considered estimated values, but can be used to fulfill the project data quality objectives Results qualified as **R** can not be used to fulfill the project data quality objectives	

*To be determined in laboratory audit and stated in laboratory contract

References:

USEPA. 1994. Contract Laboratory National Functional Guidelines for Inorganic Data Review. February
USEPA. 1995. Guidance on the Documentation and Evaluation of tract Metals Data Collected for Clean Water Act Compliance Monitoring. April.
USEPA. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review. October.